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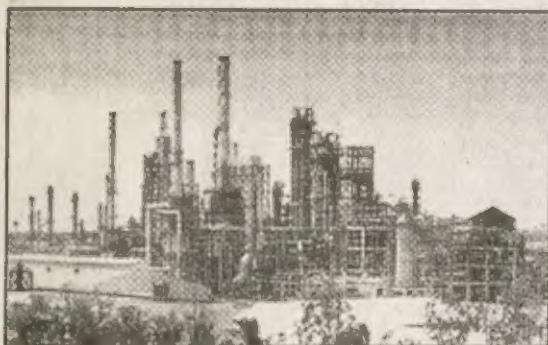
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PUBLICATIONS DIVISION
MINISTRY OF INFORMATION AND BROADCASTING
GOVERNMENT OF INDIA

2001 (Saka 1922)

© RESEARCH, REFERENCE AND TRAINING DIVISION

ISBN 81-230-0940-2

10067
26.2.2001

Price : Rs. 240.00

Published by the Director, Publications Division,
Ministry of Information and Broadcasting,
Government of India, Patiala House, New Delhi-110 001

SALES EMPORIA • PUBLICATIONS DIVISION

- Patiala House, Tilal Marg, New Delhi-110001
- Super Bazar, Connaught Circus, New Delhi-110001
- Hall No. 196, Old Secretariat, Delhi-110054
- Commerce House, Currimbhoy Road, Ballard Pier, Mumbai-400038
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- C/o PIB, 7-B, Bhawani Singh Marg, Jaipur-302001
- C/o PIB, Daulat Building, St. Inez, Panaji (Goa)-403 001

Typeset by : Quick Prints, C-111/1 Naraina Industrial Area, New Delhi - 110 028

Printed at : Aravali Printers & Publishers (Pvt.) Ltd. W-30, Okhla Industrial
Area Phase - II, New Delhi

Preface

In the limitless expanses of time and space, the man-made divisions of millennia, centuries, decades, and years come and go. Time-consciousness, however, makes nations and societies aware of their duties and responsibilities. The human quest continues for new horizons of knowledge waiting to be discovered. The year 2001 prefaces a new millennium, which holds promises of inconceivable technological progress and great expectations for mankind. Information Technology has opened up new gateways globally and modern India is a significant entrant into the era of this technology-driven world economy.

'INDIA 2001', the forty-fifth edition of the annual reference book, records the growth of the country in the various sectors of its national life. The Research, Reference & Training Division shares a joint responsibility with the Publications Division in the making of this work of reference inasmuch as it compiles and edits information made available by various central ministries, departments and state governments. Facts and figures have been updated in the book, wherever available, to the benefit of scholars, students, journalists, officials and other readers.

We welcome any suggestion from readers by way of improving upon the compilation of the Annual. The suggestions may be e-mailed to us on: <rrtd_ib@hotmail.com> or sent to the Director, Research, Reference and Training Division, Room No. 116, 'A' Wing, Shastri Bhavan, New Delhi-110 001. You can also visit us on our Website: www.nic.in/rrtd.

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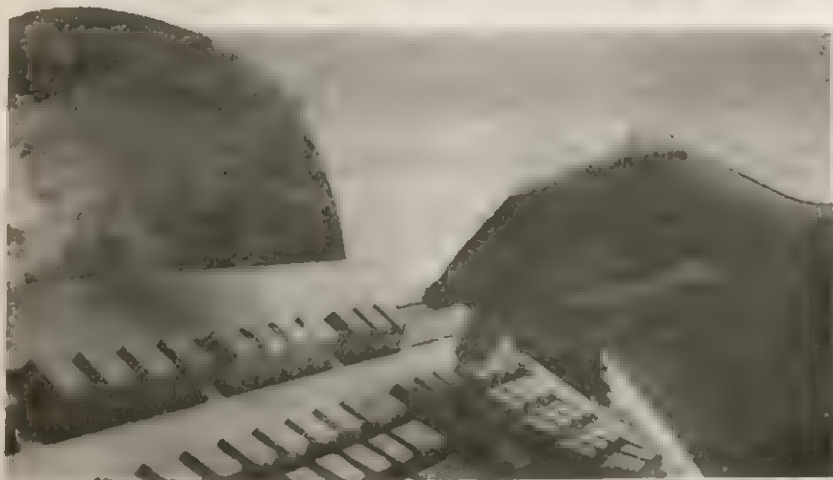
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Key to numeration

1 lakh	=	One hundred thousand
10 lakh	=	One million
1 crore	=	Ten million
100 crore	=	One billion

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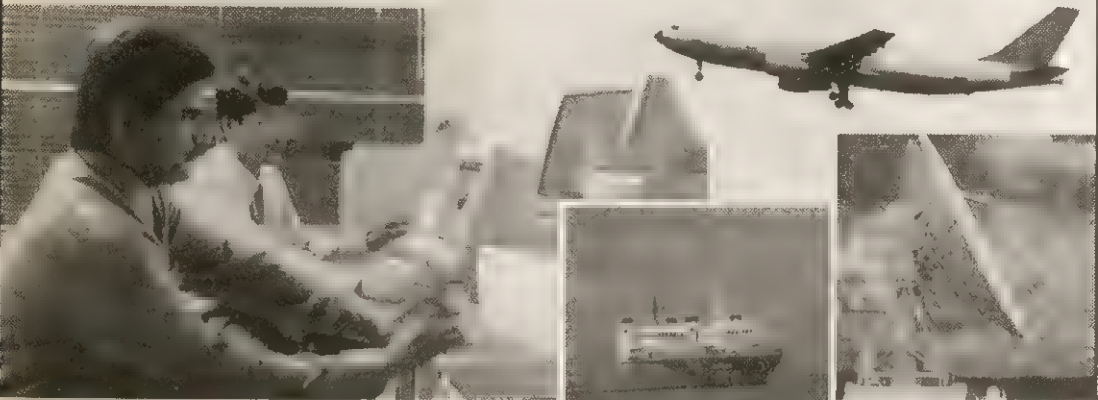
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Research, Reference and Training Division

Compilation and Editing

Lalitha Zackariah

S.D. Sharma

Dharmesh Bharti

Abha Gaur

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Indexing

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Publications Division

Co-ordinating Editors

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

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in the Satluj Valley, north-east of Kalpa (Kinnaur). The mountain wall extends over a distance of about 2,400 km with a varying depth of 240 to 320 km. In the east, between India and Myanmar and India and Bangladesh, hill ranges are much lower. Garo, Khasi, Jaintia and Naga Hills, running almost east-west, join the chain to Mizo and Rkhine Hills running north-south.

The plains of the Ganga and the Indus, about 2,400 km long and 240 to 320 km broad, are formed by basins of three distinct river systems - the Indus, the Ganga and the Brahmaputra. They are one of the world's greatest stretches of flat alluvium and also one of the most densely populated areas on the earth. Between the Yamuna at Delhi and the Bay of Bengal, nearly 1,600 km away, there is a drop of only 200 metres in elevation.

The desert region can be divided into two parts - the great desert and the little desert. The great desert extends from the edge of the Rann of Kuchh beyond the Luni river northward. The whole of the Rajasthan-Sind frontier runs through this. The little desert extends from the Luni between Jaisalmer and Jodhpur up to the northern wastes. Between the great and the little deserts lies a zone of absolutely sterile country, consisting of rocky land cut up by limestone ridges.

The Peninsular Plateau is marked off from the plains of the Ganga and the Indus by a mass of mountain and hill ranges varying from 460 to 1,220 metres in height. Prominent among these are the Aravalli, Vindhya, Satpura, Markala and Ajanta. The Peninsula is flanked on the one side by the Eastern Ghats where average elevation is about 610 metres and on the other by the Western Ghats where it is generally from 915 to 1,220 metres, rising in places to over 2,440 metres. Between the Western Ghats and the Arabian Sea lies a narrow coastal strip, while between Eastern Ghats and the Bay of Bengal there is a broader coastal area. The southern point of plateau is formed by the Nilgiri Hills where the Eastern and the Western Ghats meet. The Cardamom Hills lying beyond may be regarded as a continuation of the Western Ghats.

GEOLOGICAL STRUCTURE

The geological regions broadly follow the physical features and may be grouped into three regions: the Himalayas and their associated group of mountains, the Indo-Ganga Plain and the Peninsular Shield.

The Himalayan mountain belt to the north and the Naga-Lushai mountain in the east, are the regions of mountain-building movement. Most of this area, now presenting some of the most magnificent mountain scenery in the world, was under marine conditions about 60 crore years ago. In a series of mountain-building movements commencing about seven crore years ago, the sediments and the basement rocks rose to great heights. The weathering and erosive agencies worked on these to produce the relief seen today. The Indo-Ganga plains are a great alluvial tract that separates the Himalayas in the north from the Peninsula in the south.

The Peninsula is a region of relative stability and rare seismic disturbances. Highly metamorphosed rocks of the earliest periods, dating back as far as 380 crore years, occur in the area; the rest being covered by the coastal-bearing Gondwana formations, lava flows belonging to the Deccan Trap formation and younger sediments.

RIVERS

Rivers in India may be classified as : (i) Himalayan rivers; (ii) Peninsular rivers; (iii) Coastal rivers and (iv) rivers of the inland drainage basin.

The Himalayan rivers are perennial as they are generally snow-fed and have reasonable flow throughout the year. During the monsoon the Himalayas receive very heavy rainfall and the rivers discharge the maximum quantity of water causing frequent floods. The Peninsular rivers are generally rain-fed and, therefore, fluctuate in volume. A large number of the streams are non-perennial. The coastal streams, especially on the west coast, are short in length and have limited catchment areas. Most of them are flashy and non-perennial. The streams of the inland drainage basin of western Rajasthan are few and far between. Most of them are of an ephemeral character. They drain towards the individual basins or salt lakes like the Sambhar or are lost in the sands having no outlet to the sea. The Luni is the only river of this category that drains into the Rann of Kutch.

The Ganga sub-basin which is a part of the larger Ganga-Brahmaputra-Meghana basin is the largest in India receiving waters from an area which comprises about one-quarter of the total area of the country. Its boundaries are well-defined by the Himalayas in the north and the Vindhyas in the south. The Ganga flows through Uttar Pradesh, Bihar and West Bengal in India and enters Bangladesh thereafter. It has two main headwaters in the Himalayas: the Bhagirathi and the Alaknanda, the former rising from the Gangotri glacier at Gomukh and the latter from a glacier short of the Alkapuri glacier. The Ganga is joined by a number of Himalayan rivers including the Yamuna, Ghagra, Gomti, Gandak and Kosi. The western-most river of the Ganga system is the Yamuna which rises from the Yamunotri glacier and joins the Ganga at Allahabad. Among important rivers flowing north from central India into the Yamuna/Ganga are the Chambal, Betwa and Sone.

The Brahmaputra and the Barak flowing from east to west in north-eastern region are international rivers and have immense water resources potential which is still in the initial stages of development.

The Godavari in the southern Peninsula has the second largest river basin covering 10 per cent of the area of India. Next to it is the Krishna basin in the region, while the Mahanadi has the third largest basin. The basin of the Narmada in the uplands of the Deccan flowing to the Arabian Sea and of the Kaveri in the south falling into the Bay of Bengal are about the same size, though with different character and shape.

Two other river systems, which are small but agriculturally important, are those of the Tapti in the north and the Pennar in the south. These west-coast rivers are of great importance as they contain as much as 11 per cent of the country's water resources while draining about 10 per cent of the land area.

CLIMATE

The climate of India may be broadly described as tropical monsoon type. There are four seasons: (i) winter (January-February), (ii) hot weather summer (March-May); (iii) rainy south-western monsoon (June-September) and (iv) post-monsoon, also known as north-east monsoon in the southern Peninsula (October-December). India's climate is affected by two seasonal winds - the north-east monsoon and the south-west monsoon. The north-east monsoon commonly known as winter monsoon blows from land to sea whereas south-west monsoon known as summer monsoon blows from sea to land after crossing the Indian Ocean, the Arabian Sea and the Bay of Bengal. The south-west monsoon brings most of the rainfall during the year in the country. It is now possible to make forecast about the monsoon rains successfully with developed models and trained manpower.

FLORA

With a wide range of climatic conditions from the torrid to the arctic, India has a rich and varied vegetation, which only a few countries of comparable size possess. India can be divided into eight distinct floristic regions, namely, the western Himalayas, the eastern Himalayas, Assam, the Indus plain, the Ganga plain, the Deccan, Malabar and the Andamans.

The Western Himalayan region extends from Kashmir to Kumaon. Its temperate zone is rich in forests of *chir*, pine, other conifers and broad-leaved temperate trees. Higher up, forests of *deodar*, blue pine, spruce and silver fir occur. The alpine zone extends from the upper limit of the temperate zone of about 4,750 metres or even higher. The characteristic trees of this zone are high-level silver fir, silver birch and junipers. The eastern Himalayan region extends from Sikkim eastwards and embraces Darjiling, Kurseong and the adjacent tract. The temperate zone has forests of oaks, laurels, maples, rhododendrons, alder and birch. Many conifers, junipers and dwarf willows also occur here. The Assam region comprises the Brahmaputra and the Surma valleys with evergreen forests, occasional thick clumps of bamboos and tall grasses. The Indus plain region comprises the plains of Punjab, western Rajasthan and northern Gujarat. It is dry and hot and supports natural vegetation. The Ganga plain region covers the area which is alluvial plain and is under cultivation for wheat, sugarcane and rice. Only small areas support forests of widely differing types. The Deccan region comprises the entire table land of the Indian Peninsula and supports vegetation of various kinds from scrub jungles to mixed deciduous forests. The Malabar region covers the excessively humid belt of mountain country parallel to the west

coast of the Peninsula. Besides being rich in forest vegetation, this region produces important commercial crops, such as coconut, betelnut, pepper, coffee and tea, rubber and cashewnut. The Andaman region abounds in evergreen, mangrove, beach and diluvial forests. The Himalayan region extending from Kashmir to Arunachal Pradesh through Nepal, Sikkim, Bhutan, Meghalaya and Nagaland and the Deccan Peninsula is rich in endemic flora, with a large number of plants which are not found elsewhere.

India is rich in flora. Currently available data place India in the tenth position in the world and fourth in Asia in plant diversity. From about 70 per cent geographical area surveyed so far, 47,000 species of plants have been described by the Botanical Survey of India. The vascular flora, which forms the conspicuous vegetation cover comprises 15,000 species. Of these, more than 35 per cent is endemic and has so far not been reported anywhere in the world. The total plant wealth of the country includes not only the useful large flowered plants including flowering shrubs, but also a large number of non-flowering plants like ferns, liverworts, algae and fungi.

The flora of the country is being studied by the Botanical Survey of India (BSI), Calcutta and its nine circle/field offices located throughout the country along with certain universities and research institutions. The publication *Flora of India* in the form of fascicles has been initiated by BSI and 20 fascicles have already been published. BSI also brings out publications on the state and district flora, both flowering and non-flowering, from time to time.

Ethnobotanical study deals with the utilisation of plants and plant products by ethnic races. A scientific study of such plants has been made by BSI. A number of detailed ethnobotanical explorations have been conducted in different tribal areas of the country. More than 800 plant species of ethnobotanical interest have been collected and identified at different centres.

Owing to destruction of forests for agricultural, industrial and urban development, several Indian plants are facing extinction. About 1,336 plant species are considered vulnerable and endangered. About 20 species of higher plants are categorised as possibly extinct as these have not been sighted during the last 6-10 decades. BSI brings out an inventory of endangered plants in the form of a publication titled *Red Data Book*. Four volumes of the book have already been published and the fifth is being compiled. Samples of some of these plants are preserved in botanical gardens and national parks. Collections of dried samples of these plants are preserved in the Central National Herbarium, the regional herbaria of BSI and in research and training institutions of the country.

FAUNA

The Zoological Survey of India (ZSI), with its headquarters in Calcutta and 16 regional stations located in different parts of the country, is responsible for surveying the faunal resource of our country. Possessing a tremendous

diversity of climate and physical conditions, India has great variety of fauna numbering 89,451 species. Of these, insects constitute about 60,000, molluscs a little over 5,000, mammals 390, birds 1,232, reptiles 456, amphibians 209, and fishes 2,546.

The mammals include the majestic elephant, the *gaur* or Indian bison—the largest of existing bovines, the great Indian rhinoceros, the gigantic wild sheep of the Himalayas, the swamp deer, the thamin spotted deer, *nilgai*, the four-horned antelope, the Indian antelope or black-buck—the only representatives of these genera. Among the cats, the tiger and lion are the most magnificent of all; other splendid creatures such as the clouded leopard, the snow leopard, the marbled cat, etc., are also found. Many other species of mammals are remarkable for their beauty, colouring, grace and uniqueness. The abundant and colourful life of this country is one of its treasures. Several birds, like pheasants, geese, ducks, mynahs, parakeets, pigeons, cranes, hornbills and sunbirds, inhabit forests and wet lands.

Rivers and lakes harbour crocodiles and *gharials*, the latter being the only representative of crocodilian order in the world. The salt water crocodile is found along the eastern coast and in the Andaman and Nicobar Islands. A project for breeding crocodiles started in 1974, has been instrumental in saving the crocodile from extinction. Twelve schemes are in operation in different states for breeding crocodiles.

The great Himalayan range has a very interesting variety of fauna that includes the wild sheep and goats, markhor, ibex, shrew and tapir. The panda and the snow leopard are found in the upper reaches of the mountains.

Depletion of vegetative cover due to expansion of agriculture, habitat destruction, over-exploitation, pollution, introduction of toxic imbalance in community structure, epidemics, floods, droughts and cyclones, contribute to the loss of flora and fauna. More than 39 species of mammals, 72 species of birds, 17 species of reptiles, three species of amphibians, two species of fish and a large number of butterflies, moth and beetles are considered vulnerable and endangered.

There are presently 86 national parks and 480 wildlife sanctuaries covering 4.66 per cent of the total geographical area of the country.

DEMOGRAPHIC BACKGROUND

CENSUS

Enumeration for the 1991 census began from 9 February and ended on 28 February with the census reference point of time being the sunrise of 1 March 1991. The houseless people were enumerated on the night of 28 February and in some cases on 27 February due to Holi Festival. A revisional round was conducted during 1-5 March 1991 to up-date the population as on 1 March 1991. In certain inaccessible and snow-bound areas of Uttar Pradesh, Himachal Pradesh, Arunachal Pradesh and Andaman and Nicobar Islands, census was,

however, conducted non-synchronously. Owing to unfavourable weather conditions prevailing in Jammu and Kashmir during February-March 1991, it was planned to conduct the 1991 census in that State in August-October 1991, but this could not take place due to disturbances in the State at the proposed time of census.

POPULATION

India's population, as on 1 March 1991 stood at 846.30 million (439.23 million males and 407.07 million females). This includes the projected population of 7.72 million of Jammu and Kashmir. The second most populous country, India is the home of 16 per cent of world's population. The country, however, accounts for 2.42 per cent of the total world area.

The population of India as recorded at each decennial census from 1901 has grown steadily except for a decrease during 1911-21. Decadal growth of population from 1901, is shown in table 1.1. In most states the growth rate declined during the decade. However, Andhra Pradesh, Arunachal Pradesh, Madhya Pradesh, Maharashtra, Nagaland, Tripura, West Bengal, Daman and Diu, Lakshadweep and Pondicherry which account for one-third of the country's population, recorded increase in growth rate. Nagaland registered the highest growth rate of 56.08 per cent while Kerala the lowest 14.32 per cent. Ranking of the States and Union Territories according to population size is in table 1.2.

Mumbai metropolis is the most populated city of the country with an urban population of 12.60 million, Calcutta taking the second place having 11.02 million. Delhi ranks third with a population (urban) of 8.42 million followed by Chennai 5.42 million.

POPULATION DENSITY

One of the important indices of population concentration is the density of population. It is defined as the number of persons per square kilometre. The population density has gone up from 216 in 1981 to 267 persons in 1991 (excluding Assam and J&K). In 1901 it was 77 persons. The density of population in States and UTs is shown in table 1.3.

The 10 heavily populated districts of the country are Calcutta, Chennai, Greater Mumbai, Hyderabad, Delhi, Chandigarh, Mahe, Howrah, Kanpur City and Bangalore. All of them have a density of above 2,000 persons per square kilometre and 5.01 per cent of the country's population lives in these districts. The average density of these districts is 6,888.

SEX RATIO

Sex ratio is defined as the number of females per thousand males. In India, it has generally been adverse to women. The ratio has also declined over the years except in 1981 when it slightly improved to 934 from 927. In 1991, there has been a fall by seven points to 927 per thousand males. But Kerala represented a different spectrum. The State has a higher number of females than males, 1,036 females against thousand males.

In the Indian context, a sex ratio of 950 and above can be considered as favourable to females. The States and Union Territories coming under this category besides Kerala are Himachal Pradesh (976), Andhra Pradesh (972), Goa (967), Karnataka (960), Manipur (958), Orissa (971), Tamil Nadu (974), Dadra and Nagar Haveli (952), Daman and Diu (969) and Pondicherry (979). Chandigarh accounted for the lowest number of females per thousand males with 790. Sex ratio (1901-1991) is given in table 1.4.

LITERACY

For the purpose of census, a person is deemed as literate if he or she can read and write any language with understanding. In the 1991 census, the question on literacy was canvassed only for population aged seven years and above, unlike earlier censuses which took into account population of five years and above for this purpose.

The final results reveal that there has been an increase in literacy in the country. The literacy rate in the country (excluding Jammu and Kashmir) is 52.21 per cent (64.13 for males and 39.29 for females). The steady improvement in literacy rate is apparent from the table 1.5.

Kerala retained its position by being on top with a 89.81 per cent literacy rate in the country. Bihar stood at the bottom with a literacy rate of 38.48 per cent, with Rajasthan being close to it having 38.55 literacy percentage. But literacy among the women was the lowest in Rajasthan with a percentage of 20.44 as compared to 54.99 among the males. Table 1.6 shows the literacy rate among persons, males and females in States and UTs.

TABLE 1.1: POPULATION 1901-91

Year	Population ¹	Decade growth rate (per cent) ¹	Average Annual exponential growth rate (per cent)	Progressive growth rate over 1901
1	2	3	4	5
1901	23,83,96,327	—	—	—
1911	25,20,93,390	+5.75	0.56	+5.75
1921	25,13,21,213	- 0.31	- 0.03	+5.42
1931	27,89,77,238	+11.00	1.04	+17.02
1941	31,86,60,580	+14.22	1.33	+33.67
1951	36,10,88,090	+13.31	1.25	+51.47
1961	43,92,34,771	+21.51	1.96	+84.25
1971	54,81,59,652	+24.80	2.20	+129.94
1981	68,33,29,097	+24.66	2.22	+186.64
1991	84,63,02,688	+23.85	2.14	+255.00

¹ Census of India 1991 Series 1 India, Paper 2 of 1992 Final Population totals.

NOTES :

1. In 1981, census was not conducted in Assam. Based on the 1971 census and the final results of the 1991 census the population of Assam as on 1 March 1981 has been interpolated.
2. The 1991 census has not yet been conducted in Jammu and Kashmir. The population figures for India include the population figure for Jammu and Kashmir projected by the Standing Committee of Experts on Population Projections (October 1989).
3. The 1971 census was conducted with 1 April 1971 as the reference date. In both the 1961 and 1981 censuses the reference date was 1 March. The average annual exponential growth rate presented in the statement takes into account this difference. No such adjustment has been made while calculating decadal growth rate.
4. In Arunachal Pradesh the census was conducted for the first time in 1961. While working out the decadal growth, absolute as well as per cent for 1951-61, 1961 census population of Arunachal Pradesh has been excluded.

TABLE 1.2 : STATES AND UNION TERRITORIES BY POPULATION SIZE

Rank in 1991	State/ Union Territory	Population 1991	Per cent to total Population of India		Rank in 1981
1	2	3	4	5	6
1.	Uttar Pradesh	13,91,12,287	16.44	16.18	1
2.	Bihar	8,63,74,465	10.21	10.20	2
3.	Maharashtra	7,89,37,187	9.33	9.16	3
4.	West Bengal	6,80,77,965	8.04	7.97	4
5.	Andhra Pradesh	6,65,08,008	7.86	7.82	5
6.	Madhya Pradesh	6,61,81,170	7.82	7.62	6
7.	Tamil Nadu	5,58,58,946	6.60	7.06	7
8.	Karnataka	4,49,77,201	5.31	5.42	8
9.	Rajasthan	4,40,05,990	5.20	5.00	9
10.	Gujarat	4,13,09,582	4.88	4.97	10
11.	Orissa	3,16,59,736	3.74	3.85	11
12.	Kerala	2,90,98,518	3.44	3.71	12
13.	Assam	2,24,14,322	2.65	2.90	13
14.	Punjab	2,02,81,969	2.40	2.45	14
15.	Haryana	1,64,63,648	1.94	1.89	15
16.	Delhi	94,20,644	1.11	0.91	16
17.	Jammu & Kashmir ¹	77,18,700	0.91	0.87	17
18.	Himachal Pradesh	51,70,877	0.61	0.62	18
19.	Tripura	27,57,205	0.33	0.30	19
20.	Manipur	18,37,149	0.22	0.21	20
21.	Meghalaya	17,74,778	0.21	0.19	21
22.	Nagaland	12,09,546	0.14	0.11	23
23.	Goa	11,69,793	0.14	0.15	22
24.	Arunachal Pradesh	8,64,558	0.10	0.09	24

25.	Pondicherry	8,07,785	0.09	0.09	25
26.	Mizoram	6,89,756	0.08	0.07	26
27.	Chandigarh	6,42,015	0.08	0.07	27
28.	Sikkim	4,06,457	0.05	0.05	28
29.	Andaman & Nicobar Islands	2,80,661	0.03	0.03	29
30.	Dadra & Nagar Haveli	1,38,477	0.02	0.02	30
31.	Daman & Diu	1,01,586	0.01	0.01	31
32.	Lakshadweep	51,707	0.01	0.01	32

Source: Census of India 1991 Final Population totals (1) PCA Part-II-B(ii), 1991 (2) PCA-Part IIB(i), 1981 (PPXX).

The 1991 census was not held in J & K. The population projections of J & K as on 1 March made by the Standing Committee of Experts on Population Projections (October 1989) are given.

TABLE 1.3 : STATES AND UNION TERRITORIES BY DENSITY 1991

Rank in 1991	State/ Union Territory	Density	
		1981	1991
	INDIA ²	216 ³	267 ¹
1.	Delhi	4,194	6,352
2.	Chandigarh	3,961	5,632
3.	Pondicherry	1,229	1,642
4.	Lakshadweep	1,258	1,616
5.	Daman and Diu	705	907
6.	West Bengal	615	767
7.	Kerala	655	749
8.	Bihar	402	497
9.	Uttar Pradesh	377	473
10.	Tamil Nadu	372	429
11.	Punjab	333	403
12.	Haryana	292	372
13.	Goa	272	316
14.	Assam	230 ¹	286
15.	Dadra and Nagar Haveli	211	282
16.	Tripura	196	263
17.	Maharashtra	204	257
18.	Andhra Pradesh	195	242
19.	Karnataka	194	235
20.	Gujarat	174	211
21.	Orissa	169	203
22.	Madhya Pradesh	118	149
23.	Rajasthan	100	129
24.	Himachal Pradesh	77	93
25.	Manipur	64	82
26.	Meghalaya	60	79
27.	Jammu and Kashmir	59 ³	76 ^{3&4}

28.	Nagaland	47	73
29.	Sikkim	45	57
30.	Andaman and Nicobar Islands	23	34
31.	Mizoram	23	33
32.	Arunachal Pradesh	8	10

Source: Census of India, 1991. Final Population totals paper 2 of 1992 and PCA Part-II-B(i)

¹ For calculating density for Assam, the population figures for 1981 were worked out by interpolation as census could not be held.

² Excluding Assam & Jammu and Kashmir.

³ Density excludes area (1,20,849 sq km) under unlawful occupation of Pakistan and China.

⁴ The 1991 census was not held in J&K. For calculating density the population figures 1991 as projected by Standing Committee of Experts on Population Projections (October 1989) have been taken.

TABLE 1.4: SEX RATIO : 1901-1991

Census Year	Sex ratio
1901	972
1911	964
1921	955
1931	950
1941	945
1951	946
1961	941
1971	930
1981 ¹	934
1991 ²	927

Source : Census of India, 1991 Series I, PCA General Population Part-II-B(i) Vol.I.

¹ Includes interpolated population of Assam.

² The 1991 Census was not held in J & K. For working out sex ratio for India the population for J & K as projected by the Standing Committee of Experts on Population Projections (October 1989) has been taken.

TABLE 1.5: LITERACY RATE : 1951-1991

Year	Persons	Males	Females
1951 ¹	18.33	27.16	8.86
1961 ²	28.31	40.40	15.34
1971 ³	34.45	45.95	21.97
1981 ⁴	43.56	56.37	29.75
	(41.42)	(53.45)	(28.46)
1991 ⁵	52.21	64.13	39.29

Final Population totals, paper 2 of 1992 and PCA 1961 Part-II-A(ii)

- ¹ Excluding the population of J & K, Pondicherry and NEFA, D.N. Haveli and G.D. and Diu.
² Excluding Goa, Daman & Diu, NEFA.
³ Paper 2 of 1983 Series I
⁴ Excluding Assam
⁵ Excluding J & K

Notes:

Literacy rates for 1951, 1961 and 1971 relate to population aged five years and above. The rates for the years 1981 and 1991 relate to the population aged seven years and above. The literacy rates for the population aged five years and above in 1981 have been shown in brackets.

The 1981 rates exclude Assam where the 1981 census could not be conducted. The 1991 census rates exclude Jammu and Kashmir where the 1991 census could not be taken.

TABLE 1.6 : LITERACY RATE AMONG PERSONS,
MALES AND FEMALES IN STATES/UTs, 1991

Sl. No.	State or Union Territory	Total	Literacy Rate (Age 7 and above)		
		Rural Urban	Persons	Males	Females
1	2	3	4	5	6
STATES					
1.	Andhra Pradesh	Total	44.09	55.13	32.72
		Rural	35.74	47.28	23.92
		Urban	66.35	75.87	56.41
2	Arunachal Pradesh	Total	41.59	51.45	29.69
		Rural	37.02	47.00	25.31
		Urban	71.59	77.99	62.23
3	Assam	Total	52.89	61.87	43.03
		Rural	49.32	58.66	39.19
		Urban	79.39	84.37	73.32
4	Bihar	Total	38.48	52.49	22.89
		Rural	33.83	48.31	17.95
		Urban	67.89	77.72	55.94
5.	Goa	Total	75.51	83.64	67.09
		Rural	72.31	81.71	62.87
		Urban	80.10	86.33	73.38
6.	Gujarat	Total	61.29	73.13	48.64
		Rural	53.09	66.84	38.65
		Urban	76.54	84.56	67.70
7	Haryana	Total	55.85	69.10	40.47
		Rural	49.85	64.78	32.51
		Urban	73.66	81.96	64.06
8.	Himachal Pradesh	Total	63.86	75.36	52.13
		Rural	61.86	73.89	49.79
		Urban	84.17	88.97	78.32
9.	Karnataka	Total	56.04	67.26	44.34

		Rural	47.69	60.30	34.76
		Urban	74.20	82.04	65.74
10.	Kerala	Total	89.81	93.62	86.17
		Rural	88.92	92.91	85.12
		Urban	92.25	95.58	89.06
11.	Madhya Pradesh	Total	44.20	58.42	28.85
		Rural	35.87	51.04	19.73
		Urban	70.81	81.32	58.92
12.	Maharashtra	Total	64.87	76.56	52.32
		Rural	55.52	69.74	40.96
		Urban	79.20	86.41	70.87
13.	Manipur	Total	59.89	71.63	47.60
		Rural	55.79	67.64	45.26
		Urban	70.53	82.11	58.67
14.	Meghalaya	Total	49.10	53.12	44.85
		Rural	41.05	44.83	37.12
		Urban	81.74	85.72	77.32
15.	Mizoram	Total	82.27	85.61	78.60
		Rural	72.47	77.36	67.03
		Urban	93.45	95.15	91.61
16.	Nagaland	Total	61.65	67.62	54.75
		Rural	57.23	63.42	50.36
		Urban	83.10	85.94	79.10
17.	Orissa	Total	49.09	63.09	34.68
		Rural	45.46	60.00	30.79
		Urban	71.99	81.21	61.18
18.	Punjab	Total	58.51	65.66	50.41
		Rural	52.77	60.71	43.85
		Urban	72.08	77.26	66.12
19.	Rajasthan	Total	38.55	54.99	20.44
		Rural	30.37	47.64	11.59
		Urban	65.33	78.50	50.24
20.	Sikkim	Total	56.94	65.70	46.76
		Rural	54.39	63.44	44.06
		Urban	80.89	85.19	74.94
21.	Tamil Nadu	Total	62.66	73.75	51.33
		Rural	54.59	67.18	41.84
		Urban	77.99	86.06	69.61
22.	Tripura	Total	60.44	70.58	49.65
		Rural	56.08	67.07	44.33
		Urban	83.09	89.00	76.93
23.	Uttar Pradesh	Total	41.60	55.73	25.31
		Rural	36.66	52.05	19.02
		Urban	61.00	69.98	50.38
24.	West Bengal	Total	57.70	67.81	46.56
		Rural	50.50	62.05	38.12
		Urban	75.27	81.19	68.25

UNION TERRITORIES

1.	Andaman and Nicobar Islands	Total	73.02	78.99	65.46
		Rural	69.73	75.99	61.99
		Urban	81.69	86.59	75.08
2.	Chandigarh	Total	77.81	82.04	72.34
		Rural	59.12	65.67	47.83
		Urban	79.87	84.09	74.57
3.	Dadra and Nagar Haveli	Total	40.71	53.56	26.98
		Rural	37.00	50.04	23.30
		Urban	78.44	86.35	68.42
4.	Daman and Diu	Total	71.20	82.66	59.40
		Rural	61.55	75.23	46.70
		Urban	81.61	91.14	72.35
5.	Delhi	Total	75.29	82.01	66.99
		Rural	66.90	78.46	52.15
		Urban	76.18	82.39	68.54
6.	Lakshadweep	Total	81.78	90.18	72.89
		Rural	78.89	88.66	68.72
		Urban	83.99	91.31	76.11
7.	Pondicherry	Total	74.74	83.68	65.63
		Rural	65.36	76.44	53.96
		Urban	79.88	87.70	71.98

Source : Census of India 1991, Series I.
Paper 2 of 1992, Final Population totals.

TABLE 1.7 : TOTAL POPULATION AND PERCENTAGE OF
SCHEDULED CASTE AND SCHEDULED TRIBE 1991

Sl. No.	India/State or Union Territory	Total Population ('000)	Scheduled Caste Population ('000)	Scheduled Caste Percentage of total population	Scheduled Tribe Population ('000)	Scheduled Tribe Percentage of total population
1	2	3	4	5	6	7
	INDIA ¹	8,38,584	1,38,223	16.48	67,758	8.08
STATES						
1.	Andhra Pradesh	66,508	10,592	15.93	4,199	6.31
2.	Arunachal Pradesh	865	4	0.47	550	63.66
3.	Assam	22,414	1,659	7.40	2,874	12.82
4.	Bihar	86,374	12,572	14.56	6,617	7.66
5.	Goa	1,170	24	2.08	-	0.03
6.	Gujarat	41,310	3,060	7.41	6,162	14.92
7.	Haryana	16,464	3,251	19.75	-	-
8.	Himachal Pradesh	5,171	1,310	25.34	218	4.22
9.	Karnataka	44,977	7,369	16.38	1,916	4.26
10.	Kerala	29,099	2,887	9.92	321	1.10
11.	Madhya Pradesh	66,181	9,627	14.54	15,399	23.27

12.	Maharashtra	78,937	8,758	11.10	7,318	9.27
13.	Manipur	1,837	37	2.02	632	34.41
14.	Meghalaya	1,775	9	0.51	1,518	85.53
15.	Mizoram	690	1	0.10	654	94.75
16.	Nagaland	1,210	-	-	1,061	87.70
17.	Orissa	31,660	5,129	16.20	7,032	22.21
18.	Punjab	20,282	5,743	28.31	-	-
19.	Rajasthan	44,006	7,608	17.29	5,475	12.44
20.	Sikkim	406	24	5.93	91	22.36
21.	Tamil Nadu	55,859	10,712	19.18	574	1.03
22.	Tripura	2,757	451	16.36	853	30.95
23.	Uttar Pradesh	1,39,112	29,276	21.05	288	0.21
24.	West Bengal	68,078	16,081	23.62	3,809	5.60

UNION TERRITORIES

1.	Andaman and Nicobar Islands	281	-	-	27	9.54
2.	Chandigarh	642	106	16.51	-	-
3.	Dadra and Nagar Haveli	138	3	1.97	109	78.99
4.	Daman and Diu	102	4	3.83	12	11.54
5.	Delhi	9,421	1,795	19.05	-	-
6.	Lakshadweep	52	-	-	48	93.15
7.	Pondicherry	808	131	16.25	-	-

¹ Excludes figures of Jammu & Kashmir where 1991 census was not taken.

Source: Census of India 1991, Series 1. Paper 2 of 1992, Final Population totals.

TABLE 1.8 : RURAL AND URBAN POPULATION : 1901 - 1991

Census Year	Population (million)		Percentage of total population	
	Rural	Urban	Rural	Urban
1901	213	26	89.2	10.8
1911	226	26	89.7	10.3
1921	223	28	88.8	11.2
1931	246	33	88.0	12.0
1941	275	44	86.1	13.9
1951	299	62	82.7	17.3
1961	360	79	82.0	18.0
1971	439	109	80.1	19.9
1981 ¹	524	159	76.7	23.3
1991 ²	629	218	74.3	25.7

Source: Census of India 1991, Series 1, India, Paper 2 of 1992. Final Population Totals.

¹ The 1991 census could not be held in Assam. The figures for 1981 for Assam have been worked out by interpolation.

² Includes projected population of Jammu and Kashmir.

TABLE 1.9: GROWTH OF URBANISATION BY CLASS OF TOWNS

Class of town		Population in '000s					
		1901	1951	1961	1971	1981	1991
I	1,00,000 and above	5,570	23,483	34,736	52,808	82,227	1,22,291
II	50,000 - 99,999	2,948	7,548	9,530	14,712	22,037	28,764
III	20,000 - 49,999	4,346	11,115	15,728	19,865	26,719	35,273
IV	10,000 - 19,999	5,847	9,331	11,241	13,929	17,588	21,079
V	5,000 - 9,999	5,332	8,463	6,304	6,089	6,788	7,397
VI	Less than 5,000	1,650	2,047	805	853	1,062	967
All classes		25,693	61,987	78,343	1,08,256	1,56,420	2,15,772
Urban population as percentage to total Population ¹		10.84	17.29	19.97	19.91	23.34	25.72

Source: Part II-A(ii) - A-Series - Towns & Urban Agglomerations 1991 with their Populations 1901-1991 - Table A-4.

Notes:

Excludes figures for Jammu & Kashmir in 1991 where 1991 Census was not conducted owing to disturbances. For comparative purposes the figures of J&K have also been excluded for 1901 to 1981.

Excludes figures for Assam in 1981 where census of 1981 was not held.

¹Data includes Jammu & Kashmir and Assam.

TABLE 1.10: DISTRIBUTION OF VILLAGES
ACCORDING TO POPULATION : 1991

Sl. No.	States/UTs	Less than 1,000	1,000 to 1,999	2,000 to 4,999	5,000 to 9,999	10,000 and over	Total
1	2	3	4	5	6	7	8
	INDIA ¹⁺²	3,90,093	1,14,395	62,915	10,597	2,779	5,80,781 ³
1.	Andhra Pradesh	11,856	6,433	6,510	1,474	313	26,586
2.	Arunachal Pradesh	3,538	82	25	3	1	3,649
3.	Assam	17,784	4,988	1,793	111	9	24,685
4.	Bihar	45,164	12,768	7,647	1,604	330	67,513
5.	Goa	156	78	94	31	1	360
6.	Gujarat	8,528	5,432	3,418	575	75	18,028
7.	Haryana	2,627	2,021	1,703	364	44	6,759
8.	Himachal Pradesh	16,361	495	136	5	-	16,997
9.	Karnataka	17,113	5,861	3,422	570	100	27,066
10.	Kerala	7	16	102	252	1,007	1,384
11.	Madhya Pradesh	56,568	11,426	3,264	261	7	71,526
12.	Maharashtra	24,111	10,632	4,715	762	192	40,412
13.	Manipur	1,834	192	135	16	3	2,182 ³

14.	Meghalaya	5,316	129	38	1	-	5,484
15.	Mizoram	616	61	19	2	-	698
16.	Nagaland	929	170	108	8	1	1,216
17.	Orissa	39,309	5,761	1,812	103	4	46,989
18.	Punjab	7,447	3,130	1,628	209	14	12,428
19.	Rajasthan	27,123	7,060	3,255	420	31	37,889
20.	Sikkim	336	79	29	3	-	447
21.	Tamil Nadu	4,915	4,625	4,764	1,247	271	15,822
22.	Tripura	195	203	348	94	15	855
23.	Uttar Pradesh	74,866	24,523	11,949	1,336	129	1,12,803
24.	West Bengal	22,701	8,065	5,819	1,117	208	37,910
25.	A & N Islands	445	44	15	-	-	504
26.	Chandigarh	7	6	8	3	1	25
27.	D & N Haveli	27	17	25	1	1	71
28.	Daman & Diu	9	6	6	2	1	24
29.	Delhi	29	44	86	19	21	199
30.	Lakshadweep	2	-	4	1	-	7
31.	Pondicherry	174	48	38	3	-	263

¹ Excludes the population of Jammu & Kashmir where the 1991 census could not be conducted due to disturbances.

² The population figures exclude population of areas under unlawful occupation of Pakistan & China where census could not be taken.

³ As separate population figures of the following villages are not available, the villages have been excluded from the range classification. However, the villages with which they are enumerated are included in the range classification.

Name of village	Enumerated with	Sub-division	District
1. Phaijol	Soraland	Sadar Hills East	Senapati
2. Kamarangkha Kuki	Phaitol	Tamenglong West	Tamenglong

TABLE 1.11 : POPULATION OF MILLION PLUS CITIES

Sl. City	Population in '000s			Growth ratio		Sex ratio		Literacy rate	
No.	1991	1981	1951	1991	1981	1991	1981	1991	1981
1. Calcutta	11,022	9,194	4,670	2.36	1.97	830	781	77	65
2. Greater Mumbai	12,596	8,243	2,967	4.25	2.78	828	772	82	68
3. Delhi	8,419	5,729	1,437	5.86	3.99	830	808	76	63
4. Chennai	5,422	4,289	1,542	3.52	2.78	933	930	81	67
5. Bangalore	4,130	2,922	786	5.25	3.72	902	896	79	64
6. Hyderabad	4,344	2,546	1,131	3.84	2.25	920	919	71	58
7. Ahmadabad	3,312	2,548	877	3.78	2.91	889	869	80	63
8. Kanpur	2,030	1,639	705	2.88	2.32	822	804	72	55

9. Pune	2,494	1,686	609	4.09	2.77	903	880	81	67
10. Nagpur	1,664	1,302	485	3.43	2.68	915	910	82	66
11. Lucknow	1,669	1,008	497	3.36	2.03	871	832	71	58
12. Jaipur	1,518	1,015	304	4.99	3.34	868	861	70	54
13. Surat	1,519	924	237	6.41	3.90	828	840	76	60
14. Kochi	1,141	825	212	5.38	3.89	997	989	94	79
15. Vadodara	1,127	782	211	5.34	3.71	899	888	82	68
16. Indore	1,109	829	311	3.57	2.67	900	885	77	61
17. Coimbatore	1,101	920	287	3.84	3.21	930	924	80	67
18. Patna	1,100	919	326	3.37	2.82	829	815	77	58
19. Madurai	1,086	907	371	2.93	2.44	954	952	82	68
20. Bhopal	1,063	671	102	10.42	6.58	894	870	72	57
21. Visakhapatnam	1,057	604	108	9.79	5.59	937	933	72	56
22. Ludhiana	1,043	607	154	6.77	3.94	795	815	72	62
23. Varanasi	1,031	797	370	2.79	2.15	861	842	64	47

Source : Paper 2. 1991, Final Population Total.

TABLE 1.12 : POPULATION BY RELIGION

Religious group	1961 ¹		1971		1981		1991	
	Number (million)	Per cent to total	Number (million)	Per cent to total	Number (million)	Per cent to total	Number (million)	Per cent to total
Hindus	366.5	83.5	453.4	82.7	549.7	82.6	672.6	82.41
Muslims	46.9	10.7	61.4	11.2	75.6	11.4	95.2	11.67
Christians	10.7	2.4	14.3	2.6	16.2	2.4	18.9	2.32
Sikhs	7.8	1.8	10.4	1.9	13.1	2.0	16.3	1.99
Buddhists	3.2	0.7	3.9	0.7	4.7	0.7	6.3	0.77
Jains	2.0	0.5	2.6	0.5	3.2	0.5	3.4	0.41
Other ¹	1.6	0.4	2.2	0.4	2.8	0.4	3.5	0.43
Total	439.2	100.0	548.2	100.0	665.3	100.0	816.2 ²	100.00

Source : (i) Census of India, Series I, India, Part II c (ii), (ii) Census of India 1981, Series I, Paper 3 of 1984 (Religion), (iii) Census of India, Series I, Paper I of 1995 (Religion).

¹ Including unclassified persons

² Excludes Assam and J & K

³ Excludes Mizo district, now constituted of U.T. of Mizoram.

Note: 1981 data do not include Assam.

TABLE 1.13 : COMPARATIVE STRENGTHS OF SCHEDULED LANGUAGES

Language	Persons who returned the language as their mother tongue			Percentage to total population		
	1971	1981	1991	1971	1981 ¹	1991
1. Hindi	20,85,14,005	26,45,14,117	33,72,72,114	38.04	38.71	39.85
2. Bengali	4,47,92,312	5,12,98,319	6,95,95,738	8.17	7.51	8.22
3. Telugu	4,47,56,923	5,06,24,611	6,60,17,615	8.16	7.41	7.80
4. Marathi	4,17,65,190	4,94,52,922	6,24,81,681	7.62	7.24	7.38
5. Tamil	3,76,90,106	N.A. ²	5,30,06,368	6.88	N.A. ²	6.26
6. Urdu	2,86,20,895	3,49,41,435	4,34,06,932	5.22	5.11	5.13
7. Gujarati	2,58,65,012	3,30,63,267	4,06,73,814	4.72	4.84	4.81
8. Kannada	2,17,10,649	2,56,97,146	3,27,53,676	3.96	3.76	3.87
9. Malayalam	2,19,38,760	2,57,00,705	3,03,77,176	4.00	3.76	3.59
10. Oriya	1,98,63,198	2,30,21,528	2,80,61,313	3.62	3.37	3.32
11. Punjabi	1,41,08,443	1,96,11,199	2,33,78,744	2.57	2.87	2.76
12. Assamese	89,59,558	N.A. ³	1,30,79,696	1.63	N.A. ³	1.55
13. Sindhi	16,76,875	20,44,389	21,22,848	0.31	0.30	0.25
14. Nepali	14,19,835	13,60,636	20,76,645	0.26	0.20	0.25
15. Konkani	15,08,432	15,70,108	17,60,607	0.28	0.23	0.21
16. Manipuri	7,91,714	9,01,407	12,70,216	0.14	0.13	0.15
17. Kashmiri	24,95,487	31,76,975	N.A. ⁴	0.46	0.46	N.A. ⁴
18. Sanskrit	2,212	6,106	49,736	N	N	0.01

Notes: ¹ The percentage of speakers of each language for 1981 have been worked out on the total population of India including the estimated population of Assam where the 1981 Census was not conducted due to disturbed conditions.

² Full figures for Tamil and Assamese for 1981 are not available as the census records for Tamil Nadu were lost in floods and the 1981 Census could not be conducted in Assam due to disturbances then in the State. Therefore, percentage to total population for Tamil and Assamese is not given.

³ The percentage of speakers of each language for 1991 has been worked out on the total population of India including the projected population for Jammu & Kashmir where the 1991 Census could not be conducted due to disturbances..

⁴ Full figures for Kashmiri language for 1991 are not available as the 1991 Census was not conducted in Jammu & Kashmir for reasons explained above.

N.A. — Not available

N — Negligible

2 National Symbols

NATIONAL FLAG

THE National flag is a horizontal tricolour of deep saffron (*kesaria*) at the top, white in the middle and dark green at the bottom in equal proportion. The ratio of width of the flag to its length is two to three. In the centre of the white band is a navy-blue wheel which represents the *chakra*. Its design is that of the wheel which appears on the abacus of the Sarnath Lion Capital of Ashoka. Its diameter approximates to the width of the white band and it has 24 spokes.

The design of the national flag was adopted by the Constituent Assembly of India on 22 July 1947. Its use and display are regulated by the Indian Flag Code.

STATE EMBLEM

The state emblem is an adaptation from the Sarnath Lion Capital of Ashoka. In the original, there are four lions, standing back to back, mounted on an abacus with a frieze carrying sculptures in high relief of an elephant, a galloping horse, a bull and a lion separated by intervening wheels over a bell-shaped lotus. Carved out of a single block of polished sandstone, the capital is crowned by the Wheel of the Law (*Dharma Chakra*).

In the State emblem, adopted by the Government of India on 26 January 1950, only three lions are visible, the fourth being hidden from view. The wheel appears in relief in the centre of the abacus with a bull on right and a horse on left and the outlines of other wheels on extreme right and left. The bell-shaped lotus has been omitted. The words *Satyameva Jayate* from *Mundaka Upanishad*, meaning 'Truth Alone Triumphs', are inscribed below the abacus in *Devanagari* script.

NATIONAL ANTHEM

The song *Jana-gana-mana*, composed originally in Bengali by Rabindranath Tagore, was adopted in its Hindi version by the Constituent Assembly as the National Anthem of India on 24 January 1950. It was first sung on 27 December 1911 at the Calcutta Session of the Indian National Congress. The complete song consists of five stanzas. The first stanza contains the full version of the National Anthem :

Jana-gana-mana-adhinayaka, jaya he

Bharata-bhagya-vidhata.

Punjab-Sindh-Gujarat-Maratha

Dravida-Utkala-Banga

Vindhya-Himachala-Yamuna-Ganga

Uchchala-Jaladhi-taranga.



National Flag



National Emblem

The sun is the symbol of life,
 The moon is the symbol of love,
 The stars are the symbol of hope,
 The earth is the symbol of peace,
 The sky is the symbol of freedom,
 The sea is the symbol of unity,
 The air is the symbol of progress,
 The fire is the symbol of power.

The sun is the symbol of life, the moon is the symbol of love, the stars are the symbol of hope, the earth is the symbol of peace, the sky is the symbol of freedom, the sea is the symbol of unity, the air is the symbol of progress, the fire is the symbol of power.

The sun is the symbol of life,
 The moon is the symbol of love.

The sun is the symbol of life,
 The moon is the symbol of love,
 The stars are the symbol of hope,
 The earth is the symbol of peace.

The sun is the symbol of life, the moon is the symbol of love, the stars are the symbol of hope, the earth is the symbol of peace, the sky is the symbol of freedom, the sea is the symbol of unity, the air is the symbol of progress, the fire is the symbol of power.

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The sun is the symbol of life, the moon is the symbol of love, the stars are the symbol of hope, the earth is the symbol of peace, the sky is the symbol of freedom, the sea is the symbol of unity, the air is the symbol of progress, the fire is the symbol of power.

The sun is the symbol of life, the moon is the symbol of love, the stars are the symbol of hope, the earth is the symbol of peace, the sky is the symbol of freedom, the sea is the symbol of unity, the air is the symbol of progress, the fire is the symbol of power.

Victory, victory, victory to thee

NATIONAL SONG.

The sun is the symbol of life, the moon is the symbol of love, the stars are the symbol of hope, the earth is the symbol of peace, the sky is the symbol of freedom, the sea is the symbol of unity, the air is the symbol of progress, the fire is the symbol of power.

Victory, victory, victory to thee

The sun is the symbol of life, the moon is the symbol of love, the stars are the symbol of hope, the earth is the symbol of peace, the sky is the symbol of freedom, the sea is the symbol of unity, the air is the symbol of progress, the fire is the symbol of power.



The English translation of the stanza rendered by Sri Aurobindo in prose¹ is :

I bow to thee, Mother,
richly-watered, richly-fruited,
cool with the winds of the south,
dark with the crops of the harvests,
The Mother!
Her nights rejoicing in the glory of the moonlight,
her lands clothed beautifully with her trees in flowering bloom,
sweet of laughter, sweet of speech,
The Mother, giver of boons, giver of bliss.

NATIONAL CALENDAR

The national calendar based on the *Saka Era* with *Chaitra* as its first month and a normal year of 365 days was adopted from 22 March 1957 along with the Gregorian calendar for the following official purposes: (i) Gazette of India, (ii) news broadcast by All India Radio, (iii) calendars issued by the Government of India and (iv) Government communications addressed to the members of the public.

Dates of the national calendar have a permanent correspondence with dates of the Gregorian calendar : 1 *Chaitra* falling on 22 March normally and on 21 March in leap year.

NATIONAL ANIMAL

The magnificent tiger, *Panthera tigris* (Linnaeus), is a striped animal. It has a thick yellow coat of fur with dark stripes. The combination of grace, strength, agility and enormous power has earned the tiger its pride of place as the national animal of India. Out of eight races of the species known, the Indian race, the Royal Bengal Tiger, is found throughout the country except in the north-western region and also in the neighbouring countries, Nepal, Bhutan and Bangladesh. To check the dwindling population of tigers in India 'Project Tiger' was launched in April 1973. So far, 25 tiger reserves have been established in the country under this project, covering an area of 33,875 sq km.

NATIONAL BIRD

The Indian peacock, *Pavo cristatus* (Linnaeus), the national bird of India, is a colourful, swan-sized bird, with a fan-shaped crest of feathers, a white patch under the eye and a long, slender neck. The male of the species is more colourful than the female, with a glistening blue breast and neck and a spectacular bronze-green train of around 200 elongated feathers. The female is brownish, slightly smaller than the male, and lacks the train. The elaborate courtship dance of the male, fanning out the tail and preening its feathers, is a gorgeous sight.

¹ As published in Volume Eight of Sri Aurobindo Birth Centenary Library Popular Edition 1972

The peacock is widely found in the Indian sub-continent from the south and east of the Indus river, Jammu and Kashmir, east Assam, south Mizoram and the whole of the Indian peninsula. The Peacock enjoys protection from the people as it is never molested for religious and sentimental reasons. It is fully protected under the Indian Wildlife (Protection) Act, 1972.

NATIONAL FLOWER

Lotus (*Nelumbo nucifera*) is the National Flower of India. It is a sacred flower and occupies a unique position in the art and mythology of ancient India and has been an auspicious symbol of Indian culture since time immemorial.

3 The Polity

INDIA, a Union of States, is a Sovereign Socialist Secular Democratic Republic with a parliamentary system of government. The Republic is governed in terms of the Constitution, which was adopted by Constituent Assembly on 26 November 1949 and came into force on 26 January 1950.

The Constitution which envisages parliamentary form of government is federal in structure with unitary features. President of India is constitutional head of executive of the Union. Article 74(1) of the Constitution provides that there shall be a Council of Ministers with the Prime Minister as head to aid and advise President who shall in exercise of his functions, act in accordance with such advice. Real executive power thus vests in Council of Ministers with Prime Minister as head. Council of Ministers is collectively responsible to the House of the People (Lok Sabha). Similarly, in states, Governor is head of executive, but it is the Council of Ministers with Chief Minister as head in whom real executive power vests. Council of Ministers of a state is collectively responsible to the Legislative Assembly.

The Constitution distributes legislative power between Parliament and state legislatures and provides for vesting of residual powers in Parliament. Power to amend the Constitution also vests in Parliament. The Constitution has provision for independence of judiciary, Comptroller and Auditor-General, Public Service Commissions and Chief Election Commissioner.

THE UNION AND ITS TERRITORY

India comprises 28 States and seven Union Territories. They are: Andhra Pradesh, Assam, Arunachal Pradesh, Bihar, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. Three new states—Chhatisgarh, Jharkhand and Uttaranchal — came into being recently. Union Territories are : Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Delhi, Lakshadweep and Pondicherry.

CITIZENSHIP

The Constitution of India provides for a single and uniform citizenship for the whole of India. Every person who was at the commencement of the Constitution (26 January 1950) domiciled in the territory of India and: (a) who was born in the territory of India or (b) either of whose parents was born

in the territory of India or (c) who has been ordinarily resident in the territory of India for not less than five years immediately preceding such commencement, shall be a citizen of India. The Citizenship Act, 1955 provides for acquisition and termination of citizenship after the commencement of the Constitution.

FUNDAMENTAL RIGHTS

The Constitution offers all citizens, individually and collectively, some basic freedoms. These are guaranteed in the Constitution in the form of six broad categories of Fundamental Rights which are justiciable. Article 12 to 35 contained in Part III of the Constitution deal with Fundamental Rights. These are : (i) right to equality including equality before law, prohibition of discrimination on grounds of religion, race, caste, sex or place of birth and equality of opportunity in matters of employment; (ii) right to freedom of speech and expression; assembly; association or union; movement; residence; and right to practice any profession or occupation (some of these rights are subject to security of the State, friendly relations with foreign countries, public order, decency or morality); (iii) right against exploitation, prohibiting all forms of forced labour, child labour and traffic in human beings; (iv) right to freedom of conscience and free profession, practice and propagation of religion; (v) right of any section of citizens to conserve their culture, language or script and right of minorities to establish and administer educational institutions of their choice; and (vi) right to constitutional remedies for enforcement of Fundamental Rights.

FUNDAMENTAL DUTIES

By the 42nd Amendment of the Constitution, adopted in 1976, Fundamental Duties of the citizens have also been enumerated. Article 51 'A' contained in Part IV A of the Constitution deals with Fundamental Duties. These enjoin upon a citizen among other things, to abide by the Constitution, to cherish and follow noble ideals which inspired our national struggle for freedom, to defend the country and render national service when called upon to do so and to promote harmony and spirit of common brotherhood amongst all people of India transcending religious, linguistic and regional or sectional diversities.

DIRECTIVE PRINCIPLES OF STATE POLICY

The Constitution lays down certain Directive Principles of State Policy which though not justiciable, are 'fundamental in governance of the country' and it is the duty of the State to apply these principles in making laws. These lay down that the State shall strive to promote the welfare of people by securing and protecting as effectively as it may a social order in which justice—social, economic and political—shall inform all institutions of national life. The State shall direct its policy in such a manner as to secure the right of all men and women to an adequate means of livelihood, equal pay for equal work and within limits of its economic capacity and development, to

make effective provision for securing the right to work, education and to public assistance in the event of unemployment, old age, sickness and disablement or other cases of undeserved want. The State shall also endeavour to secure to workers a living wage, humane conditions of work, a decent standard of life and full involvement of workers in management of industries.

In the economic sphere, the State is to direct its policy in such a manner as to secure distribution of ownership and control of material resources of community to subserve the common good and to ensure that operation of economic system does not result in concentration of wealth and means of production to common detriment.

Some of the other important directives relate to provision of opportunities and facilities for children to develop in a healthy manner, free and compulsory education for all children up to the age of 14; promotion of education and economic interests of scheduled castes, scheduled tribes and other weaker sections; organisation of village *panchayats*; separation of judiciary from executive, promulgation of a uniform civil code for whole country; protection of national monuments; promotion of justice on a basis of equal opportunity; provision of free legal aid; protection and improvement of environment and safeguarding of forests and wildlife of the country and promotion of international peace and security, just and honourable relations between nations, respect for international law, treaty obligations and settlement of international disputes by arbitration.

THE UNION

EXECUTIVE

The Union executive consists of the President, the Vice-President and the Council of Ministers with the Prime Minister at the head to aid and advise the President.

PRESIDENT

The President is elected by members of an electoral college consisting of elected members of both Houses of Parliament and Legislative Assemblies of the states in accordance with the system of proportional representation by means of single transferable vote. To secure uniformity among state *inter se* as well as parity between the states, as a whole, and the Union, suitable weightage is given to each vote. President must be a citizen of India, not less than 35 years of age and qualified for election as member of the Lok Sabha. His term of office is five years and he is eligible for re-election. His removal from office is to be in accordance with procedure prescribed in Article 61 of the Constitution. He may, by writing under his hand addressed to the Vice-President, resign his office.

Executive power of the Union is vested in the President and is exercised by him either directly or through officers subordinate to him in accordance

with the Constitution. Supreme command of defence forces of the Union also vests in him. The President summons, prorogues, addresses, sends messages to Parliament and dissolves the Lok Sabha; promulgates Ordinances at any time, except when both Houses of Parliament are in session; makes recommendations for introducing financial and money bills and gives assent to bills; grants pardons, reprieves, respites or remission of punishment or suspends, remits or commutes sentences in certain cases. When there is a failure of the constitutional machinery in a state, he can assume to himself all or any of the functions of the government of that state. The President can proclaim emergency in the country if he is satisfied that a grave emergency exists whereby security of India or any part of its territory is threatened whether by war or external aggression or armed rebellion

VICE-PRESIDENT

The Vice-President is elected by members of an electoral college consisting of members of both Houses of Parliament in accordance with the system of proportional representation by means of single transferable vote. He must be a citizen of India, not less than 35 years of age and eligible for election as a member of the Rajya Sabha. His term of office is five years and he is eligible for re-election. His removal from office is to be in accordance with procedure prescribed in Article 67 b.

The Vice-President is *ex-officio* Chairman of the Rajya Sabha and acts as President when the latter is unable to discharge his functions due to absence, illness or any other cause or till the election of a new President (to be held within six months when a vacancy is caused by death, resignation or removal or otherwise of President). While so acting, he ceases to perform the function of the Chairman of the Rajya Sabha.

COUNCIL OF MINISTERS

There is a Council of Ministers headed by the Prime Minister to aid and advise the President in exercise of his functions. The Prime Minister is appointed by the President who also appoints other ministers on the advice of Prime Minister. The Council is collectively responsible to the Lok Sabha. It is the duty of the Prime Minister to communicate to the President all decisions of Council of Ministers relating to administration of affairs of the Union and proposals for legislation and information relating to them.

The Council of Ministers comprises Ministers who are members of Cabinet, Ministers of State (independent charge), Ministers of State and Deputy Ministers.

LEGISLATURE

Legislature of the Union which is called Parliament, consists of President and two Houses, known as Council of States (Rajya Sabha) and House of the

People (Lok Sabha). Each House of Parliament has to meet within six months of its previous sitting. A joint sitting of two Houses can be held in certain cases.

RAJYA SABHA

The Constitution provides that the Rajya Sabha shall consist of 250 members, of which 12 members shall be nominated by the President from amongst persons having special knowledge or practical experience in respect of such matters as literature, science, art and social service; and not more than 238 representatives of the States and of the Union Territories.

Elections to the Rajya Sabha are indirect; members representing states are elected by elected members of legislative assemblies of the states in accordance with the system of proportional representation by means of the single transferable vote, and those representing union territories are chosen in such manner as Parliament may by law prescribe. The Rajya Sabha is not subject to dissolution; one-third of its members retire every second year.

The Rajya Sabha, at present, has 245 seats. Of these, 233 members represent the States and the Union Territories and 12 members are nominated by the President. The names of members of Rajya Sabha and party affiliation are given in Appendices.

LOK SABHA

The Lok Sabha is composed of representatives of people chosen by direct election on the basis of adult suffrage. The maximum strength of the House envisaged by the Constitution is now 552 (530 members to represent States, 20 to represent Union Territories and not more than two members of Anglo-Indian community to be nominated by the President, if, in his opinion, that community is not adequately represented in the House) The total elective membership of the Lok Sabha is distributed among States in such a way that the ratio between the number of seats allotted to each State and population of the State is, as far as practicable, the same for all States. The Lok Sabha at present consists of 545 members. Of these, 530 members are directly elected from the States and 13 from Union Territories while two are nominated by the President to represent the Anglo-Indian community. The allocation of seats in the present Lok Sabha is based on the 1971 census and under the 42nd Amendment of the Constitution (1976) will continue to be so based until figures of the first census taken after 2000 AD become available.

The term of the Lok Sabha, unless dissolved, is five years from the date appointed for its first meeting. However, while a proclamation of emergency is in operation, this period may be extended by Parliament by law for a period not exceeding one year at a time and not extending in any case, beyond a period of six months after the proclamation has ceased to operate. Thirteen Lok Sabhas have been constituted so far. The term of each Lok Sabha and its Speaker(s) is given in table 3.1.

The State-wise allocation of seats in the two Houses and the party position in the Lok Sabha is given in table 3.2. The names of members of the Thirteenth Lok Sabha, their constituencies and party affiliations are given in Appendices.

QUALIFICATION FOR MEMBERSHIP OF PARLIAMENT

In order to be chosen a member of Parliament, a person must be a citizen of India and not less than 30 years of age in the case of Rajya Sabha and not less than 25 years of age in the case of Lok Sabha. Additional qualifications may be prescribed by Parliament by law.

FUNCTIONS AND POWERS OF PARLIAMENT

As in other parliamentary democracies, Parliament of India has the cardinal functions of legislation, overseeing of administration, passing of budget, ventilation of public grievances and discussing various subjects like development plans, international relations and national policies. The distribution of powers between the Union and the States, followed in the Constitution, emphasises in many ways the general predominance of Parliament in the legislative field. Apart from a wide range of subjects, even in normal times Parliament can, under certain circumstances, assume legislative power with respect to a subject falling within the sphere exclusively reserved for the States. Parliament is also vested with powers to impeach the President and to remove the Judges of Supreme Court and High Courts, the Chief Election Commissioner and the Comptroller and Auditor General in accordance with the procedure laid down in the Constitution.

All legislation requires consent of both the Houses of Parliament. In the case of money bills, however, the will of the Lok Sabha prevails. Delegated legislation is also subject to review and control by Parliament. Besides the power to legislate, the Constitution vests in Parliament the power to initiate amendment of the Constitution. A list of laws made by Parliament during 1999 is given at the end of the Chapter entitled 'Justice and Law'.

PARLIAMENTARY COMMITTEES

The functions of Parliament are not only varied in nature, but considerable in volume. The time at its disposal is limited. It cannot make very detailed scrutiny of all legislative and other matters that come up before it. A good deal of its business is, therefore, transacted in committees.

Both Houses of Parliament have a similar committee structure, with a few exceptions. Their appointment, terms of office, functions and procedure of conducting business are also more or less similar and are regulated under rules made by the two Houses under Article 118(1) of the Constitution.

Broadly, parliamentary committees are of two kinds - standing committees and *ad hoc* committees. The former are elected or appointed every year or periodically and their work goes on, more or less, on a continuous basis. The

latter are appointed on an *ad hoc* basis as need arises and they cease to exist as soon as they complete the task assigned to them.

Standing Committees : Among standing committees, the three financial committees—*Committees on Estimates, Public Accounts and Public Undertakings*—constitute a distinct group and they keep an unremitting vigil over Government expenditure and performance. While members of the Rajya Sabha are associated with Committees on Public Accounts and Public Undertakings, members of the Committee on Estimates are drawn entirely from the Lok Sabha.

The *Estimates Committee* reports on 'what economies, improvements in organisation, efficiency or administrative reform consistent with policy underlying the estimates' may be effected. It also examines whether the money is well laid out within limits of the policy implied in the estimates and suggests the form in which estimates shall be presented to Parliament. The *Public Accounts Committee* scrutinises appropriation and finance accounts of Government and reports of the Comptroller and Auditor-General. It ensures that public money is spent in accordance with Parliament's decision and calls attention to cases of waste, extravagance, loss or negatory expenditure. The *Committee on Public Undertakings* examines reports of the Comptroller and Auditor-General, if any. It also examines whether public undertakings are being run efficiently and managed in accordance with sound business principles and prudent commercial practices.

Besides these three financial committees, the Rules Committee of the Lok Sabha recommended setting up of 17 *Department Related Standing Committees*. Accordingly, 17 Department Related Standing Committees were set up on 8 April 1993. The functions of these committees are : (a) to consider the Demands for Grants of various ministries/departments of Government of India and make reports to the Houses; (b) to examine such Bills as are referred to the Committee by the Chairman, Rajya Sabha or the Speaker, Lok Sabha, as the case may be, and make report thereon; (c) to consider Annual Reports of ministries/departments and make reports thereon; and (d) to consider policy documents presented to the Houses, if referred to the Committee by the Chairman, Rajya Sabha or the Speaker, Lok Sabha, as the case may be, and make reports thereon.

Other standing committees in each House, divided in terms of their functions, are (i) Committees to Inquire: (a) *Committee on Petitions* examines petitions on bills and on matters of general public interest and also entertains representations on matters concerning Central subjects; and (b) *Committee of Privileges* examines any question of privilege referred to it by the House or Speaker/Chairman; (ii) Committees to Scrutinise: (a) *Committee on Government Assurances* keeps track of all assurances, promises, undertakings, etc., given by ministers in the House and pursues them till they are implemented; (b) *Committee on Subordinate Legislation* scrutinises and reports to the House whether the power to make regulations, rules, sub-rules,

bye-laws, etc., conferred by the Constitution or Statutes is being properly exercised by the delegated authorities; and (c) *Committee on Papers Laid on the Table* examines all papers laid on the table of the House by ministers, other than statutory notifications and orders which come within the purview of the Committee on Subordinate Legislation, to see whether there has been compliance with provisions of the Constitution, Act, rule or regulation under which the paper has been laid; (iii) Committees relating to the day-to-day business of the House: (a) *Business Advisory Committee* recommends allocation of time for items of Government and other business to be brought before the Houses; (b) *Committee on Private Members' Bills and Resolutions of the Lok Sabha* classifies and allocates time to Bills introduced by private members, recommends allocation of time for discussion on private members' resolutions and examines Constitution amendment bills before their introduction by private members in the Lok Sabha. The Rajya Sabha does not have such a committee. It is the Business Advisory Committee of that House which recommends allocation of time for discussion on stage or stages of private members' bills and resolutions; (c) *Rules Committee* considers matters of procedure and conduct of business in the House and recommends amendments or additions to the Rules; and (d) *Committee on Absence of Members from the Sitzings of the House of the Lok Sabha* considers all applications from members for leave or absence from sittings of the House. There is no such committee in the Rajya Sabha. Applications from members for leave or absence are considered by the House itself; (iv) *Committee on the Welfare of Scheduled Castes and Scheduled Tribes*, on which members from both Houses serve, considers all matters relating to welfare of scheduled castes and scheduled tribes which come within the purview of the Union government and keeps a watch whether constitutional safeguards in respect of these classes are properly implemented; (v) Committees concerned with provision of facilities to members. (a) *General Purposes Committee* considers and advises Speaker/Chairman on matters concerning affairs of the House, which do not appropriately fall within the purview of any other parliamentary committee; and (b) *House Committee* deals with residential accommodation and other amenities for members; (vi) *Joint Committee on Salaries and Allowances of Members of Parliament*, constituted under the Salary, Allowances and Pension of Members of Parliament Act, 1954, apart from framing rules for regulating payment of salary, allowances and pension to Members of Parliament, also frames rules in respect of amenities like medical, housing, telephone, postal, constituency and secretariat facility; (vii) *Joint Committee on Offices of Profit* examines the composition and character of committees and other bodies appointed by Central and State governments and Union Territory administrations and recommends what offices ought to or ought not to disqualify a person for being chosen as a member of either House of Parliament; (viii) *Library Committee* consisting of members from both Houses, considers matters concerning Library of Parliament; (ix) On 29 April 1997, a *Committee on Empowerment of Women* with members from both the Houses was constituted with a view to securing, among other things, status,

dignity and equality for women in all fields. On 4 March 1997, the *Ethics Committee* of the Rajya Sabha was constituted and that of the Lok Sabha on 16 May 2000.

Ad hoc Committees : Such committees may be broadly classified under two heads (a) committees which are constituted from time to time, either by two Houses on a motion adopted in that behalf or by Speaker/Chairman to inquire into and report on specific subjects. (e.g., *Committees on the Conduct of certain Members during President's Address, Committees on Draft Five-Year Plans, Railway Convention Committee, Committee on Members of Parliament Local Area Development Scheme, Joint Committee on Bofors Contracts, Joint Committee on Fertilizer Pricing and Joint Committee to enquire into irregularities in securities and banking transactions, etc.*) and (b) *Select or Joint Committees on Bills* which are appointed to consider and report on a particular bill. These committees are distinguishable from other *ad hoc* committees in as much as they are concerned with bills and the procedure to be followed by them as laid down in the Rules of Procedure and Directions by the Speaker/Chairman.

LEADERS OF OPPOSITION IN PARLIAMENT

In keeping with their important role, the Leaders of Opposition in the Rajya Sabha and the Lok Sabha are accorded statutory recognition. Salary and other suitable facilities are extended to them through a separate legislation brought into force on 1 November 1977.

GOVERNMENT BUSINESS IN PARLIAMENT

The Minister of Parliamentary Affairs is entrusted with the responsibility of coordinating, planning and arranging Government Business in both Houses of Parliament. In the discharge of this function, he is assisted by his Ministers of State. For this purpose, the Ministry works under the overall direction of Cabinet Committee on Parliamentary Affairs. The Minister also keeps close and constant contact with the presiding officers, the leaders as well as chief whips and whips of various parties and groups in both Houses of Parliament.

CONSULTATIVE COMMITTEES

The Ministry of Parliamentary Affairs constitutes consultative committees of Members of Parliament attached to various Ministries and arranges their meetings. The Minister/Minister of State in-charge of the Ministry concerned acts as the Chairman of the Consultative Committee of that Ministry. The main purpose of these Committees is to provide a forum for informal discussions between the Government and Members of Parliament on the policies and programmes of the Government and the manner of their implementation. Meetings of these Committees are held both during the session and inter-session periods of Parliament. Besides this, informal consultative committees of the nine Railway Zones are also constituted and their meetings arranged during the session periods.

NOMINATION OF MEMBERS OF PARLIAMENT ON GOVERNMENT COMMITTEES/BOARDS

The Minister of Parliamentary Affairs nominates Members of Parliament on committees, councils, boards and commissions, etc., set-up by the Government of India in the various Ministries. The Members are nominated on such bodies keeping in view their special interests and aptitude in the subject.

OTHER PARLIAMENTARY MATTERS

The Ministry of Parliamentary Affairs, Government of India, has been organising All India Whips' Conferences from time to time, with the purpose of establishing suitable links amongst the whips of various political parties at the Centre and in the States who are concerned with the practical working of the legislatures to discuss matters of common interest and to evolve high standards to strengthen the institutions of parliamentary democracy.

The Ministry of Parliamentary Affairs takes follow-up action on matters raised under Rule 377 of the Rules of Procedure and Conduct of Business in Lok Sabha and by way of Special Mentions in Rajya Sabha. Also, after 'Question Hour', in both Houses of Parliament, Members raise matters of urgent public importance. Though it is not mandatory, Ministers sometimes react to the points made by the Members. When the concerned Ministers are not present the Minister of Parliamentary Affairs assures the House or the individual members that their sentiments would be conveyed to the concerned Ministries.

IMPLEMENTATION OF ASSURANCES

The Ministry culls out assurances, promises, undertakings, etc., given by Ministers in both Houses of Parliament, from the daily proceedings and forwards them to the concerned Ministries/Departments for implementation. Statements showing action taken by the Government in implementation of the assurances, after due scrutiny of the implementation reports received from the various Ministries/Departments concerned, are laid periodically on the table of the Houses by Minister/Minister of State for Parliamentary Affairs.

ADMINISTRATIVE SET-UP

The Government of India (Allocation of Business) Rules, 1961 is made by the President of India under Article 77 of the Constitution for the allocation of business of the Government of India. The ministries/departments of the Government of India are created by the President on the advice of the Prime Minister under these Rules. The business of the Government of India are transacted in the ministries/departments, secretariats and offices (referred to as "Department") as per the distribution of subjects specified in these Rules. Each of the Ministry (ies) will be assigned to a Minister by the President on the advice of the Prime Minister. Each department will be generally under the charge of a Secretary to assist the Minister on policy matters and general administration.

The Cabinet Secretariat is responsible for secretarial assistance to the Cabinet, its committees and *ad hoc* Groups of Ministers, and for maintenance of record of their decisions and proceedings. The Secretariat monitors implementation of the decisions/directions of the Cabinet/Cabinet Committees/groups of ministers. The Secretariat is also responsible for the administration of the Government of India (Transaction of Business) Rules, 1961 and facilitates smooth transaction of business in ministries/departments of the Government by ensuring adherence to these Rules. The Secretariat assists in decision-making in Government by ensuring inter-ministerial co-ordination ironing out differences amongst ministries/departments and evolving consensus through the instrumentality of the standing/*ad hoc* committees of secretaries. Through this mechanism new policy initiatives are promoted. The Cabinet Secretariat ensures that the President, the Vice-President and ministers are kept informed of the major activities of all ministries/departments by means of monthly summary of their activities. Management of major crisis situations in the country and coordinating activities of various ministries in such a situation is also one of the functions of this Secretariat.

MINISTRIES/DEPARTMENTS OF THE GOVERNMENT

The Government consists of a number of ministries/departments, number and character varying from time to time on factors such as volume of work, importance attached to certain items, changes of orientation, political expediency, etc. On 15 August 1947, the number of ministries at the Centre was 18. As on 14 June 2000 the Government consisted of the following ministries/departments under the Government of India (Allocation of Business) Rules, 1961.

1. Ministry of Agriculture (*Krishi Mantralaya*)

- (i) Department of Agriculture and Cooperation
(*Krishi aur Sahkarita Vibhag*)
- (ii) Department of Agricultural Research and Education
(*Krishi Anusandhan aur Shiksha Vibhag*)
- (iii) Department of Animal Husbandry and Dairying
(*Pashupalan aur Dairy Vibhag*)
- (iv) Department of Food Processing Industries
(*Khadya Prasanskaran Udyog Vibhag*)

2. Ministry of Chemicals and Fertilizers (*Rasayan aur Urvarak Mantralaya*)

- (i) Department of Chemicals and Petro-Chemicals
(*Rasayan aur Petro-Rasayan Vibhag*)
- (ii) Department of Fertilizers (*Urvarak Vibhag*)

3. Ministry of Civil Aviation (*Nagar Viman Mantralaya*)

4. Ministry of Coal (*Koyala Mantralaya*)

5. Ministry of Commerce and Industry (*Vanijya aur Udyog Mantralaya*)

- (i) Department of Commerce (*Vanijya Vibhag*)
- (ii) Department of Industrial Policy and Promotion (*Audyogik Niti aur Samvardhan Vibhag*)
- (iii) Department of Supply (*Poorti Vibhag*)

6. Ministry of Communications (*Sanchar Mantralaya*)

- (i) Department of Telecommunications (*Doorsanchar Vibhag*)
- (ii) Department of Posts (*Dak Vibhag*)
- (iii) Department of Telecom Services (*Doorsanchar Seva Vibhag*)

7. Ministry of Defence (*Raksha Mantralaya*)

- (i) Department of Defence (*Raksha Vibhag*)
- (ii) Department of Defence Production and Supplies (*Raksha Utpadan aur Poorti Vibhag*)
- (iii) Department of Defence Research and Development (*Raksha Anusandhan aur Vikas Vibhag*)

8. Ministry of Environment and Forests (*Paryavaran aur Van Mantralaya*)

9. Ministry of External Affairs (*Videsh Mantralaya*)

10. Ministry of Finance (*Vitta Mantralaya*)

- (i) Department of Economic Affairs (*Arthik Karya Vibhag*)
- (ii) Department of Expenditure (*Vyaya Vibhag*)
- (iii) Department of Revenue (*Rajaswa Vibhag*)

11. Ministry of Consumer Affairs, Food and Public Distribution (*Upbhokta Mamle, Khadya aur Sarvajanik Vitaran Mantralaya*)

- (i) Department of Consumer Affairs (*Upbhokta Mamle Vibhag*)
- (ii) Department of Food and Public Distribution (*Khadya aur Sarvajanik Vitaran Vibhag*)

12. Ministry of Health and Family Welfare (*Swasthya aur Parivar Kalyan Mantralaya*)

- (i) Department of Health (*Swasthya Vibhag*)
- (ii) Department of Family Welfare. (*Parivar Kalyan Vibhag*)
- (iii) Department of Indian Systems of Medicine and Homoeopathy (*Bhartiya Chikitsa Paddhati aur Homoeopathy Vibhag*)

13. Ministry of Heavy Industries and Public Enterprises (*Bhari Udyog aur Lok Udyam Mantralaya*)

- (i) Department of Heavy Industries (*Bhari Udyog Vibhag*)
- (ii) Department of Public Enterprises (*Lok Udyam Vibhag*)

14. Ministry of Home Affairs (*Grih Mantralaya*)

- (i) Department of Internal Security
(*Antarik Suraksha Vibhag*)
- (ii) Department of States (*Rajya Vibhag*)
- (iii) Department of Official Language (*Raj Bhasha Vibhag*)
- (iv) Department of Home (*Grih Vibhag*)
- (v) Department of Jammu and Kashmir Affairs
(*Jammu tatha Kashmir Vibhag*)

**15. Ministry of Human Resource Development
(*Manav Sansadhan Vikas Mantralaya*)**

- (i) Department of Elementary Education and Literacy
(*Prarambhik Shiksha aur Saksharta Vibhag*)
- (ii) Department of Secondary Education and Higher Education
(*Madhyamik Shiksha aur Uchchatar Shiksha Vibhag*)
- (iii) Department of Women and Child Development
(*Mahila aur Bal Vikas Vibhag*)

**16. Ministry of Information and Broadcasting
(*Soochna aur Prasaran Mantralaya*)**

**17. Ministry of Information Technology
(*Soochna Praudyogiki Mantralaya*)**

18. Ministry of Labour (*Shram Mantralaya*)

**19. Ministry of Law, Justice and Company Affairs
(*Vidhi, Nyaya aur Kampany Karya Mantralaya*)**

- (i) Department of Legal Affairs (*Vidhi Karya Vibhag*)
- (ii) Legislative Department (*Vidhayee Vibhag*)
- (iii) Department of Justice (*Nyaya Vibhag*)
- (iv) Department of Company Affairs (*Kampany Karya Vibhag*)

20. Ministry of Mines (*Khan Mantralaya*)

**21. Ministry of Non-Conventional Energy Sources
(*Aparamparik Oorja Srota Mantralaya*)**

22. Ministry of Parliamentary Affairs (*Sansadiya Karya Mantralaya*)

**23. Ministry of Personnel, Public Grievances and Pensions
(*Karmik Lok Shikayat tatha Pension Mantralaya*)**

- (i) Department of Personnel and Training
(*Karmik aur Prashikshan Vibhag*)
- (ii) Department of Administrative Reforms and Public Grievances
(*Prashasanik Sudhar aur Lok Shikayat Vibhag*)
- (iii) Department of Pensions and Pensioners' Welfare

(Pension aur Pension Bhogi Kalyan Vibhag)

24. Ministry of Petroleum and Natural Gas
(Petroleum aur Prakritik Gas Mantralaya)
25. Ministry of Planning *(Yojana Mantralaya)*
26. Ministry of Power *(Vidyut Mantralaya)*
27. Ministry of Railways *(Rail Mantralaya)*
28. Ministry of Rural Development *(Gramin Vikas Mantralaya)*
 - (i) Department of Rural Development
(Gramin Vikas Vibhag)
 - (ii) Department of Land Resources
(Bhumi Sansadhan Vibhag)
 - (iii) Department of Drinking Water Supply
(Peya Jal Poorti Vibhag)
29. Ministry of Science and Technology *(Vigyan aur Praudyogiki Mantralaya)*
 - (i) Department of Science and Technology
(Vigyan aur Praudyogiki Vibhag)
 - (ii) Department of Scientific and Industrial Research
(Vigyan aur Audyogik Anusandhan Vibhag)
 - (iii) Department of Bio-Technology *(Biotechnology Vibhag)*
30. Ministry of Small Scale Industries and Agro and Rural Industries
(Laghu Udyog aur Krishi Evam Gramin Udyog Mantralaya)
31. Ministry of Statistics and Programme Implementation
(Sankhyiki aur Karyakram Karyanvayan Mantralaya)
32. Ministry of Steel *(Ispat Mantralaya)*
33. Ministry of Surface Transport *(Jal Bhootal Parivahan Mantralaya)*
 - (i) Department of Shipping *(Pot Parivahan Vibhag)*
 - (ii) Department of Road Transport and Highways
(Sarak Parivahan aur Raj Marg Vibhag)
34. Ministry of Textiles *(Vastra Mantralaya)*
35. Ministry of Tourism and Culture *(Paryatan aur Sanskriti Mantralaya)*
 - (i) Department of Tourism *(Paryatan Vibhag)*
 - (ii) Department of Culture *(Sanskriti Vibhag)*
36. Ministry of Tribal Affairs *(Janjati Karya Mantralaya)*
37. Ministry of Urban Development and Poverty Alleviation
(Shahari Vikas aur Garibi Upshaman Mantralaya)
 - (i) Department of Urban Development *(Shahari Vikas Vibhag)*

- (ii) Department of Urban Employment and Poverty Alleviation (*Shahari Rozgar aur Garibi Upshaman Vibhag*)
- 38. Ministry of Water Resources (*Jal Sansadhan Mantralaya*)
- 39. Ministry of Social Justice and Empowerment (*Samajik Nyaya aur Adhikarita Mantralaya*)
- 40. Ministry of Youth Affairs and Sports (*Yuva Karyakram aur Khel Mantralaya*)
- 41. Department of Atomic Energy (*Parmanu Oorja Vibhag*)
- 42. Department of Ocean Development (*Mahasagar Vikas Vibhag*)
- 43. Department of Space (*Antariksh Vibhag*)
- 44. Cabinet Secretariat (*Mantrimandal Sachivalaya*)
- 45. President's Secretariat (*Rashtrapati Sachivalaya*)
- 46. Prime Minister's Office (*Pradhan Mantri Karyalaya*)
- 47. Planning Commission (*Yojana Ayog*)
- 48. Department of Disinvestment (*Vinivesh Vibhag*)

PUBLIC SERVICES

ALL INDIA SERVICES

Prior to Independence, the Indian Civil Service (ICS) was the senior most amongst the Services of the Crown in India. Besides the ICS, there was also the Indian Police Service. After Independence, it was felt that though the ICS was a legacy of the imperial period there was need for the All India Service for maintaining the unity, integrity and stability of the nation. Accordingly, a provision was made in Article 312 of the Constitution for creation of one or more All India Services common to the Union and State. Indian Administrative Service and Indian Police Service are deemed to be constituted by the Parliament in terms of Article 312 of the Constitution. After the promulgation of the Constitution, a new All India Service, namely, Indian Forest Service, was created in 1966. A common unique feature of the All India Services is that the members of these services are recruited by the Centre but their services are placed under various State cadres and they have the liability to serve both under the State and under the Centre. This aspect of the All India Services strengthens the unitary character of the Indian federation.

Of the three All India Services, namely, the Indian Administrative Service (IAS), the Indian Police Service (IPS) and the Indian Forest Service (IFS), the Ministry of Personnel, Public Grievances and Pensions is the cadre controlling authority for the IAS. The recruitment to all the three services is made by the UPSC. These officers are recruited and trained by the Central Government and then allotted to different State cadres. There are now 21 State cadres including three Joint cadres, namely, (i) Assam and Meghalaya,

(ii) Manipur and Tripura and (iii) Arunachal Pradesh, Goa, Mizoram and the Union Territories (AGMU). The authorised cadre strength of Indian Administrative Service as on 1 January 2000 was 5,159 and the actual number of IAS officers in position was 5,161.

CENTRAL SECRETARIAT SERVICES

The Central Secretariat has three services, namely, (i) Central Secretariat Service (CSS), (ii) Central Secretariat Stenographers' Services (CSSS) and (iii) the Central Secretariat Clerical Service (CSCS). The Section Officers' Grade and Assistants' Grade of CSS, Grade 'D' 'C' and 'A' and 'B' (merged) of CSSS and Grade I and II of CSCS are decentralised. The grade of Principal Private Secretary and Senior Principal Private Secretary of CSSS and selection grade, and Grade I of CSS are centralised. Appointments and promotions in the Centralised grade are made on all secretariat basis. In respect of the decentralised grades, Department of Personnel and Training monitors and assesses the overall requirements of different cadres for fixing zones of promotion against the vacancies in seniority quota and arranges centralised recruitment against direct recruitment and departmental examination quota vacancies through open competitive and departmental examination.

UNION PUBLIC SERVICE COMMISSION

The Constitution provides for an independent body known as Union Public Service Commission (UPSC) for recruitment to Group 'A' and Group 'B' civil posts under Central Government, the maximum of the pay scale of which is not less than Rs 10,500 and for advice in various service matters. The Chairman and members of the Commission are appointed by the President for tenure of six years or till they attain the age of 65 years, whichever is earlier. To ensure independence, members who were at the service of Government at the time of appointment are deemed to have retired from Government services on their appointment in the Commission. The Chairman and members are also not eligible for further employment under the Government. They cannot be removed except for the reasons and in the manner provided for in the Constitution.

STAFF SELECTION COMMISSION

Staff Selection Commission initially known as Subordinate Services Commission was set up on 1 July 1976. It has been entrusted with the work of making recruitment to (i) all Group 'B' posts in the various Ministries/Departments of the Government of India and their attached and Subordinate Offices which are in the pay scales the maximum of which is below Rs 10,500 and (ii) all non-technical Group 'C' posts in the various Ministries/Departments of the Government of India and their attached and Subordinate Offices, except those posts which are specifically exempted from the purview of the Staff Selection Commission. The Commission is an attached office of the Department of Personnel and Training and comprises of a Chairman, two members and Secretary-cum-Controller of Examinations. The tenure of Chairman/Members

is for five years or till they attain the age of 62 years, whichever is earlier. The Commission's headquarters and the office of its Northern Region are in New Delhi. The offices of Central, Western, Eastern, North-Eastern, Southern and Karnataka-Kerala Region are at Allahabad, Mumbai, Calcutta, Guwahati, Chennai and Bangalore respectively. Its sub-regional offices of Madhya Pradesh region and North-Western region are at Raipur and Chandigarh.

OFFICIAL LANGUAGE

Hindi, according to Article 343 (1) of the Constitution, is the Official Language of the Union. But provision was also made in Article 343 (2) for continuing the use of English in official work for a period of 15 years (*i.e.* up to 25 January 1965) from the date of commencement of the Constitution. Article 343(3) empowered Parliament to provide by law for continued use of English for official purposes even after 25 January 1965. Accordingly, the Official Languages Act, 1963 (amended in 1967) was passed for continuing the use of English in official work even after 25 January 1965. The Act also lays down that both Hindi and English shall compulsorily be used for certain specified purposes, such as resolutions, general orders, rules, notifications, press communiques, administrative and other reports, licences, permits, contracts, agreements, etc.

In the year 1976, Official Language Rules were framed under provision of Section 8(1) of the Official Language Act 1963. Its salient features are: (i) they apply to all the Central government offices including any office of a commission, committee or tribunal appointed by the Centre and corporation or company owned or controlled by it; (ii) communications from a Central government office to States/Union Territories in Region 'A' (Uttar Pradesh, Himachal Pradesh, Madhya Pradesh, Bihar, Rajasthan, Haryana, Andaman and Nicobar Islands and Delhi) shall be in Hindi; (iii) communications from a Central government office to States/Union Territories in Region 'B' (Punjab, Gujarat, Maharashtra and Chandigarh) shall ordinarily be in Hindi. However, communications to any person in Region 'B' may be either in English or Hindi; (iv) communications between Central government offices and from Central offices to the offices of the State governments/Union Territories and individuals, etc., will be in Hindi in such proportions as determined from time to time; (v) all manuals, codes, and other procedural literature relating to Central Government offices are required to be prepared both in Hindi and English. All forms, headings of registers, name plates, notice boards and various items of stationery, etc., are also required to be in Hindi and English; (vi) it shall be the responsibility of the officer signing documents specified in Section 3(3) of the Act to ensure that these are issued both in Hindi and English. Besides the above, instructions have been issued to increase the volume of work in all Central Government offices in Hindi. The instructions pertain to training in Hindi/Hindi typing, Stenography, purchase of equipment with bilingual facility, imparting training also in Hindi, allowing Hindi language in departmental promotion examinations, etc.

In compliance with the Official Language Resolution, 1968, an Annual Programme is prepared by the Department of Official Language each year in which targets are fixed to be achieved by the offices of the Central government in regard to originating correspondence, telegrams, telex, etc, in Hindi. A Quarterly Progress Report is called for from the offices of the Central government in regard to the above said targets. An Annual Assessment Report is prepared on the basis of the Quarterly Progress Report which is laid in both Houses of the Parliament and its copies endorsed to State governments and the ministries/departments of the Central government. The deficiencies observed in it are brought to the notice of concerned administrative heads for taking remedial action. Eight Regional Implementation Offices have been established as subordinate offices of the Department for inspections of Central government offices spread all over the country. These offices are located at Mumbai, Calcutta, Bangalore, Ghaziabad, Guwahati, Bhopal, Cochin and Delhi. Besides, the Department organises the regional official language conferences to discuss various aspects of the implementation of official language policy.

The year 1999-2000 was celebrated as the Golden Jubilee Year of Official Language Hindi.

TRAINING

Under the Hindi Teaching Scheme, being run by the Department of Official Language, training in Hindi language is being imparted through 75 full-time and 96 part-time centres throughout the country. Like-wise, training in Hindi stenography and Hindi typing is being provided through 17 full-time and 62 part-time centres. The work relating to this scheme is divided amongst five regions. The headquarters of these regions are located in Delhi, Jabalpur, Mumbai, Chennai and Calcutta. The *Kendriya Hindi Prashikshan Sansthan* was established on 21 May 1985 as a subordinate office of the Department of Official Language with the object to provide full-time training as also training through correspondence in Hindi language, Hindi stenography and Hindi typing. Its sub-centres were opened in 1988 in Mumbai, Calcutta and Bangalore and in Chennai and Hyderabad in the year 1990. Under these sub-institutes two sub-centres were opened in Trichirappally and Madurai.

The Central Translation Bureau was set up for translation of different types of non-statutory literature, manuals, codes, and forms, etc., in respect of various ministries/departments, offices of the Central Government, undertakings, banks, etc., The Bureau has been conducting translation training courses also for the officers/employees connected with the translation work. Earlier this training was being imparted in Delhi alone. But, in order to meet regional requirements, translation-training centres have been opened in Mumbai, Bangalore and Calcutta.

PUBLICATIONS

The Department of Official Language brings out *Rajbhasha Bharti*, a quarterly magazine in Hindi. During the Golden Jubilee year of *Rajbhasha Hindi*, special

issues on *Rajbhasha Swarna Jayanti* and *Aarthik Sudhar* (Economic Reforms) were brought out. A monthly newsletter *Rashtriya Rajbhasha Samachar* has been started from April 2000. Official Language manual, posters, etc., are also brought out to give information about the activities relating to Official Language. TV/Radio spots relating to Hindi are also telecast/relayed. A calendar depicting the use of Hindi in various spheres is also brought out.

COMMITTEES/SAMITI

The Committee of Parliament on Official Language was constituted in 1976 under Section 4 of the Official Languages Act, 1963. The Committee comprises of 20 members from the Lok Sabha and 10 from Rajya Sabha. The Committee reviews the progress made in the use of Hindi for official purposes of the Union and submit a report to the President making recommendations thereon. The Presidential orders on the five volumes of its report have been issued.

Kendriya Hindi Samiti has been constituted under the Chairmanship of the Prime Minister to coordinate the efforts being made by various ministries/departments in regard to progressive use of Hindi in official work and also for the propagation and development of Hindi. The Apex Committee meant for giving guidelines in regard to Official Language Policy includes besides Prime Minister, some Union Ministers, Chief Minister of some states, MPs and other learned persons of Hindi and other Indian languages as its members.

Hindi Salahakar Samitis have been constituted in various ministries/departments under the Chairmanship of the ministers concerned. These committees review the progress made in the use of Hindi in their respective ministries/departments and their offices/undertakings and suggest measures to promote the use of Hindi.

Central Official Language Implementation Committee reviews the position about the use of Hindi for official purposes of the Union, the training of its employees in Hindi and the implementation of instructions issued from time to time by the Department of Official Language and suggests measures for removing the shortcomings and difficulties noticed in implementing these instructions. 216 Town Official Language Implementation Committees constituted in major towns having Central government offices in sufficient number review the progress made in the use of Hindi in these offices.

AWARD SCHEMES

The scheme of Indira Gandhi *Rajbhasha* Shield was introduced by the Department during 1986-87 to give awards to various ministries/departments, banks and financial institutions, public sector undertakings and Town Official Language Implementation Committees for outstanding achievements in promoting the Official Language Policy of the Government and Indira Gandhi *Rajbhasha* cash awards to the working/retired employees of the Central Government and banks, financial institutions, universities and training institutions and autonomous bodies of the Central government for writing original books in Hindi. Regional *Rajbhasha* Awards are given to the Town

Official Language Implementation Committees and regional/subordinate offices of the Central government/public sector undertakings/banks and financial institutions for outstanding achievement in implementing the official language policy and accelerating the progressive use of Hindi.

COMPTROLLER AND AUDITOR-GENERAL

Comptroller and Auditor-General is appointed by the President. Procedure and grounds for his removal from office are the same as for a Supreme Court Judge. He is not eligible for further office under the Union or a State Government after he ceases to hold his office. His duties, powers and conditions of service have been specified by the Comptroller and Auditor-General's (Duties, Powers and Conditions of Service) Act, 1971. The President on advice of Comptroller and Auditor-General prescribes the form in which accounts of the Union and states are to be kept. His reports on accounts of the Union and states are submitted to the President and respective governors which are placed before Parliament and state legislatures.

ADMINISTRATIVE REFORMS AND PUBLIC GRIEVANCES

The Department of Administrative Reforms and Public Grievances in the Ministry of Personnel, Public Grievances and Pensions is the nodal agency of the Government of India for Administrative reforms as well as redressal of public grievances relating to the States in general and Central government agencies in particular. The Department provides management consultancy services to Central Government Ministries/Departments. The Department disseminates information on important activities of the Government relating to administrative reforms and public grievances redressal through various publications. A comprehensive review of the grievances redress machinery in Government offices is at present being carried out by a Standing Committee of Secretaries for Grievances Redress under the Chairmanship of the Cabinet Secretary.

The implementation of the Action Plan and the Statement adopted at the Conference of Chief Ministers held on 24 May 1997 for ensuring accountable and citizen friendly Government, transparency and right to information and improving the performance and integrity of the public services, was pursued with the Ministries/Departments of the Central Government and the State Governments/UT administrations. Major accomplishments in this regard include : (i) setting up of 65 Citizens' Charters by various Ministries/Departments/Agencies of Government of India and the Government of Assam, Andaman & Nicobar Islands, NCT of Delhi, Goa, Haryana, Himachal Pradesh, Madhya Pradesh, Pondicherry, Rajasthan, Tamil Nadu and Uttar Pradesh; (ii) installation of a uniform system of categorising all the public grievances and their computerised monitoring in all Departments linking it to the main terminal in the Department of Administrative Reforms and Public Grievances; and (iii) setting up Information and Facilitation Counters (IFCs) in 45 Ministries/Departments.

The Commission on Review of Administrative Laws set up in May 1998, *inter alia* recommended repeal of almost 50 per cent of Central Laws (1,300 out of about 2,500 Laws), expeditious amendments to certain other Laws including a critical list of 109 identified Acts, documentation of Administrative Laws by all Ministries/Departments, and development of a viable alternative disputes resolution machinery. A Standing Committee has been set up for monitoring the follow-up action on implementation of the recommendations of the Commission and most of the Ministries/Departments have initiated action to repeal the dysfunctional laws and also to bring about suitable amendments/modifications in the Acts and Laws.

The Department brings out the following publications: (i) Civil Services News (a monthly newsletter); and (ii) Management in Government (a quarterly journal). The Department is actively involved in the dissemination of best practices, documentation of field experiences, etc.

The Commonwealth Association for Public Administration and Management, in coordination with the Department, held an international seminar on 'Just and Honest Government—International Experience in New Delhi from 7 to 11 February 2000 in which senior government officials from 11 Commonwealth countries participated.

The Department of Administrative Reforms and Public Grievances is an Institutional member of the International Institute of Administrative Sciences (IIAS) Brussels. The Institute provides an ideal forum for presenting and discussing experiences/observations of specialists of Public administration from all regions of the world. The Second specialised international conference of the IIAS is scheduled to be held in New Delhi in October 2002.

ADMINISTRATIVE TRIBUNALS

The enactment of Administrative Tribunals Act in 1985 opened a new chapter in the sphere of administering justice to the aggrieved government servants. Administrative Tribunals Act owes its origin to Article 323-A of the Constitution which empowers Central Government to set up by an Act of Parliament, Administrative Tribunals for adjudication of disputes and complaints with respect to recruitment and conditions of service of persons appointed to the public services and posts in connection with the affairs of the Union and the States. The Administrative Tribunals set up under the Act exercise original jurisdiction in respect of service matters of employees covered by it. As a result of the judgement dated 18 march 1997 of the Supreme Court, the appeals against the orders of an Administrative Tribunal shall lie before the Division Bench of the concerned High Court.

The Administrative Tribunals are distinguishable from the ordinary courts with regard to their jurisdiction and procedure. They exercise jurisdiction only in relation to the service matters of the litigants covered by the Act. The procedural simplicity of the Act can be appreciated from the fact that the

aggrieved person can also appear before it personally. The Government can present its case through its departmental officers or legal practitioners. Only a nominal fee of Rs 50 is to be paid by the litigants for filing the application before the Tribunal. Thus, the objective of the Tribunal is to provide for speedy and inexpensive justice to the litigants.

The Act provides for establishment of Central Administrative Tribunal (CAT) and the State Administrative Tribunal. The CAT was set up on 1 November 1985. Today, it has 17 regular benches, 15 of which operate at the principal seats of High Courts and the remaining two at Jaipur and Lucknow. These Benches also hold circuit sittings at other seats of High Courts. In brief, the tribunal consists of a Chairman, Vice-Chairmen and Members. The Members are drawn both from judicial as well as administrative streams so as to give the Tribunal the benefit of expertise both in legal and administrative sphere. The sanctioned strength of the Chairman, Vice-Chairmen and Members of the Central Administrative Tribunal at present is as follows: Chairman-one, Vice-Chairmen-16 and Members-49.

State Administrative Tribunals have been set up under the Administrative Tribunals Act by the Governments of the following States : Andhra Pradesh, Himachal Pradesh, Orissa, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu and West Bengal.

Since its inception in 1985 up to 30 June 2000, the Central Administrative Tribunal received for adjudication 3,31,648 cases (including those transferred from High Courts), out of which 2,86,220 cases have been disposed of.

THE STATES

The system of government in states closely resembles that of the Union.

EXECUTIVE

GOVERNOR

State executive consists of Governor and Council of Ministers with Chief Minister as its head. Governor of a state is appointed by the President for a term of five years and holds office during his pleasure. Only Indian citizens above 35 years of age are eligible for appointment to this office. Executive power of the State is vested in Governor.

Council of Ministers with Chief Minister as head, aids and advises Governor in exercise of his functions except in so far as he is by or under the Constitution required to exercise his functions or any of them in his discretion. In respect of Nagaland, Governor has special responsibility under Article 371 A of the Constitution with respect to law and order and even though it is necessary for him to consult Council of Ministers in matters relating to law and order, he can exercise his individual judgement as to the action to be taken.

Similarly, in respect of Arunachal Pradesh, Governor has special responsibility under Article 371H of the Constitution with respect to law and order and in discharge of his functions in relation thereto. Governor shall, after consulting Council of Ministers, exercise his individual judgement as to the action to be taken. These are, however, temporary provisions if President, on receipt of a report from governor or otherwise is satisfied that it is no longer necessary for Governor to have special responsibility with respect to law and order, he may so direct by an order.

Likewise, in the Sixth Schedule which applies to tribal areas of Assam, Meghalaya, Tripura and Mizoram as specified in para 20 of that Schedule, discretionary powers are given to Governor in matters relating to sharing of royalties between district council and state government. Sixth Schedule vests additional discretionary powers in Governors of Mizoram and Tripura in almost all their functions (except approving regulations for levy of taxes and money lending by non-tribals by district councils) since December 1998. In Sikkim, Governor has been given special responsibility for peace and social and economic advancement of different sections of population.

All Governors while discharging such constitutional functions as appointment of Chief Minister of a state or sending a report to President about failure of constitutional machinery in a state or in respect of matters relating to assent to a Bill passed by legislature, exercise their own judgement.

COUNCIL OF MINISTERS

The Chief Minister is appointed by the Governor who also appoints other ministers on the advice of the Chief Minister. The Council of ministers is collectively responsible to legislative assembly of the State.

LEGISLATURE

For every state, there is a legislature which consists of Governor and one House or, two Houses as the case may be. In Bihar, Jammu and Kashmir, Karnataka, Maharashtra and Uttar Pradesh, there are two Houses known as legislative council and legislative assembly. In the remaining states, there is only one House known as Legislative Assembly. Parliament may, by law, provide for abolition of an existing legislative council or for creation of one where it does not exist, if proposal is supported by a resolution of the legislative assembly concerned.

LEGISLATIVE COUNCIL

Legislative Council (*Vidhan Parishad*) of a state comprises not more than one-third of total number of members in legislative assembly of the state and in no case less than 40 members (Legislative Council of Jammu and Kashmir has 36 members vide Section 50 of the Constitution of Jammu and Kashmir). About one-third of members of the council are elected by members of legislative assembly from amongst persons who are not its members, one-third

by electorates consisting of members of municipalities, district boards and other local authorities in the state, one-twelfth by electorate consisting of persons who have been, for at least three years, engaged in teaching in educational institutions within the state not lower in standard than secondary school and a further one-twelfth by registered graduates of more than three years standing. Remaining members are nominated by Governor from among those who have distinguished themselves in literature, science, art, cooperative movement and social service. Legislative councils are not subject to dissolution but one-third of their members retire every second year.

LEGISLATIVE ASSEMBLY

Legislative Assembly (*Vidhan Sabha*) of a state consists of not more than 500 and not less than 60 members (Legislative Assembly of Sikkim has 32 members vide Article 371F of the Constitution) chosen by direct election from territorial constituencies in the state. Demarcation of territorial constituencies is to be done in such a manner that the ratio between population of each constituency and number of seats allotted to it, as far as practicable, is the same throughout the state. Term of an assembly is five years unless it is dissolved earlier.

POWERS AND FUNCTIONS

State legislature has exclusive powers over subjects enumerated in List II of the Seventh Schedule of the Constitution and concurrent powers over those enumerated in List III. Financial powers of legislature include authorisation of all expenditure, taxation and borrowing by the state government. Legislative assembly alone has power to originate money bills. Legislative council can make only recommendations in respect of changes it considers necessary within a period of fourteen days of the receipt of money bills from assembly. Assembly can accept or reject these recommendations.

RESERVATION OF BILLS

The Governor of a state may reserve any Bill for the consideration of the President. Bills relating to subject like compulsory acquisition of property, measures affecting powers and position of High Courts and imposition of taxes on storage, distribution and sale of water or electricity in inter-state river or river valley development projects should necessarily be so reserved. No Bills seeking to impose restrictions on inter-state trade can be introduced in a state legislature without previous sanction of the President.

CONTROL OVER EXECUTIVE

State legislatures, apart from exercising the usual power of financial control, use all normal parliamentary devices like questions, discussions, debates, adjournments and no-confidence motions and resolutions to keep a watch over day-to-day work of the executive. They also have their committees on estimates and public accounts to ensure that grants sanctioned by legislature are properly utilised.

UNION TERRITORIES

Union Territories are administered by the President acting to such extent as he thinks fit, through an Administrator appointed by him. Administrators of Andaman and Nicobar Islands, Delhi and Pondicherry are designated as Lieutenant Governors, while Administrator of Chandigarh is designated as Chief Commissioner. However, presently, the Governor of Punjab is concurrently the Administrator of Chandigarh. The Administrator of Dadra and Nagar Haveli is concurrently the Administrator of Daman and Diu. Lakshadweep has a separate Administrator.

The National Capital Territory of Delhi and Union Territory of Pondicherry each has a legislative assembly and council of ministers. Legislative assembly of Union Territory of Pondicherry may make laws with respect to matters enumerated in List II or List III in the Seventh Schedule of the Constitution in so far as these matters are applicable in relation to the union territory. The legislative assembly of National Capital Territory of Delhi has also these powers with the exceptions that Entries 1, 2 and 18 of the List II are not within the legislative competence of the legislative assembly. Certain categories of Bills, however, require the prior approval of the Central government for introduction in the legislative assembly. Some Bills, passed by the legislative assembly of the Union Territory of Pondicherry and National Capital Territory of Delhi are required to be reserved for consideration and assent of the President.

LOCAL GOVERNMENT

MUNICIPALITIES

Municipal bodies have a long history in India. The first such Municipal Corporation was set up in the former Presidency Town of Madras in 1688 and was followed by similar corporations in Bombay and Calcutta in 1726. The Constitution of India has made detailed provisions for ensuring protection of democracy in Parliament and in the state legislatures. However, Constitution did not make the local self-government in urban areas a clear-cut constitutional obligation. While the Directive Principles of State Policy refer to village Panchayats, there is no specific reference to Municipalities except the imphcity in Entry 5 of the State List, which places the subject of local self-government as a responsibility of the states.

In order to provide for a common framework for urban local bodies and help to strengthen the functioning of the bodies as effective democratic units of self-government, Parliament enacted the Constitution (74th Amendment) Act, 1992 relating to municipalities in 1992. The Act received the assent of the President on 20 April 1993. The Government of India notified 1 June 1993 as the date from which the said Act came into force. A new part IX-A relating to the Municipalities has been incorporated in the Constitution to provide for among other things, constitution of three types of Municipalities, i.e., Nagar Panchayats for areas in transition from a rural area to urban area, Municipal

Councils for smaller urban areas and Municipal Corporation for large urban areas, fixed duration of municipalities, appointment of state election commission, appointment of state finance commission and constitution of metropolitan and district planning committees. All States have set up their finance commissions. For conducting elections to urban local bodies, all states/UTs have set up their election commissions. Elections to municipal bodies have been completed in all States/UTs except Bihar and Pondicherry where this matter is *sub-judice*.

PANCHAYATS

Article 40 of the Constitution which enshrines one of the Directive Principles of State Policy lays down that the State shall take steps to organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government.

In the light of the above a new Part IX relating to the Panchayats has been inserted in the Constitution to provide for among other things, Gram Sabha in a village or group of villages; constitution of Panchayats at village and other level or levels; direct elections to all seats in Panchayats at the village and intermediate level, if any and to the offices of Chairpersons of Panchayats at such levels; reservation of seats for the Scheduled Castes and Scheduled Tribes in proportion to their population for membership of Panchayats and office of Chairpersons in Panchayats at each level; reservation of not less than one-third of the seats for women; fixing tenure of five years for Panchayats and holding elections within a period of six months in the event of supersession of any Panchayat.

ELECTION COMMISSION

Superintendence, direction and control of preparation of electoral rolls for, and the conduct of elections, to Parliament and state legislatures and elections to the offices of President and Vice-President of India are vested in the Election Commission of India. It is an independent constitutional authority set up in pursuance of Article 324(1) of the Constitution of India. Since its inception in 1950 and till October 1989, the Commission functioned as a single member body consisting of the Chief Election Commissioner. On 16 October 1989, the President appointed two more Election Commissioners on the eve of the general election to the House of the People held in November-December 1989. However, the said two Commissioners ceased to hold office on 1 January 1990 when those two posts of Election Commissioners were abolished. Again on 1 October 1993, the President appointed two more Election Commissioners. Simultaneously, law [Chief Election Commissioner and other Election Commissioners (Conditions of Service) Act, 1991] was also amended to provide that the Chief Election Commissioner and other Election Commissioners will enjoy equal powers and will receive equal salary, allowances and other perquisites. The law further provided that in case of difference of opinion amongst the Chief Election Commissioner and/or two other Election

Commissioners, the matters will be decided by the Commission by majority. The validity of that law [renamed in 1993 as the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act, 1991] was challenged before the Supreme Court. The Constitution Bench of the Supreme Court consisting of five judges, however, dismissed the petitions and fully upheld the provisions of the above law by a unanimous judgement on 14 July 1995.

Independence of Election Commission and its insulation from executive interference is ensured by a specific provision in Article 324(5) of the Constitution to the effect that Chief Election Commissioner shall not be removed from his office except in like manner and on like grounds as a judge of the Supreme Court and conditions of his service shall not be varied to his disadvantage after his appointment. The other Election Commissioners cannot be removed from office except on recommendation by the Chief Election Commissioner.

The Chief Election Commissioner and Election Commissioners are entitled to the same salary and other facilities, like rent free accommodation, as are provided to a judge of the Supreme Court. The term of office of the Chief Election Commissioner and other Election Commissioners is six years from the date he assumes office or till the day he attains the age of 65 years, whichever is earlier. Plenary powers and superintendence, direction and control of the preparation of electoral rolls and the conduct of elections vested in the Election Commission under Article 324 of the Constitution are supplemented further by Acts of Parliament, namely, Representation of the People Act, 1950, Representation of the People Act, 1951, Presidential and Vice-Presidential Elections Acts, 1952, Government of Union Territories Act, 1963, Government of the National Capital Territory of Delhi Act, 1991 and the Rules and Orders under them.

REGISTRATION OF POLITICAL PARTIES

Section 29 A of the Representation of the People Act, 1951 provides for registration of political parties by the Election Commission. A party registered with the Election Commission may be granted recognition as a National or State party on the fulfilment of certain criteria based on its poll performance. If a political party fulfils the criteria for recognition under the Election Symbols (Reservation and Allotment) Order, 1968 in four or more states, it is deemed to be a National Party. A political party recognised in less than four states is a State party in the state or states in which it is recognised as such. An exclusive symbol is reserved for a National party throughout India. In the case of a State party a symbol is reserved for it in the state or states in which it is so recognised. Such reserved symbols are allotted only to the candidates of the parties for which they are so reserved. At the time of the 1999—general elections, there were six National Parties and 48 States Parties, recognised by the Commission.

ELECTORAL REFORMS

The Election Law has undergone some important changes since 1 August 1996 by the Representation of the People (Amendment) Act, 1996. Some of them are: (i) Disqualification on conviction under the Prevention of Insults to National Honour Act, 1971: Any conviction under section 2 (offence of insulting the Indian National Flag or the Constitution of India) or section 3 (offence) of preventing singing of National Anthem) of the Prevention of Insults to National Honour Act, 1971 shall hereafter entail disqualification for contesting elections to Parliament and state legislatures for a period of six years from the date of such conviction; (ii) Increase in security deposits and number of proposers: The amount of security deposit which a candidate at an election to the House of the People or a State Legislative Assembly has to make has been enhanced as a measure to check the multiplicity of non-serious candidates. In the case of an election to the House of the People, the amount of security deposit has been increased from Rs 500 to Rs 10,000 for the general candidate and from Rs 250 to Rs 5,000 for a candidate who is a member of a Scheduled Caste or Scheduled Tribe. In the case of elections to a State Legislative Assembly, the candidates will have to make a deposit of Rs 5,000 if they are general candidates and Rs 2,500 if they belong to a Scheduled Caste or Scheduled Tribe, instead of Rs 250 and Rs 125 respectively as was being previously deposited by them. The amended law further provides that the nomination of a candidate in a Parliamentary or Assembly constituency should be subscribed by 10 electors of the constituency as proposers, if the candidate has not been set up by a recognised National or State party. In the case of a candidate set up by a recognised party only one proposer is sufficient; Minimum interval between the last date for withdrawal and date of poll has been reduced to 14 days instead of 20 days; (iii) Restriction on contesting election from more than two constituencies: A candidate shall hereafter not be eligible to contest election from more than two Parliamentary or Assembly constituencies at a general election or at the bye-elections which are held simultaneously. Similar restrictions will apply for biennial-elections and bye-elections to the council of states and state legislative councils; (iv) Listing of names of candidates: For the purpose of listing of names of candidates, they shall be classified as (a) candidates of recognised political parties, (b) candidates of registered-unrecognised political parties, and (c) other (independent) candidates. Their names in the list of contesting candidates, and in the ballot papers will now appear separately in the above order and in each category they will be arranged in alphabetical order; (v) Death of a candidate: Previously, the election was countermanded on the death of a contesting candidate. In future, no election will be countermanded on the death of a contesting candidate. If the deceased candidate, however, was set up by a recognised National or State party, the party concerned will be given an option to nominate another candidate within seven days of the issue of a notice to that effect to the party concerned by the Election Commission; (vi) Prohibition of going armed to or near a polling station: Going armed with any kind of arms as defined in Arms Act, 1959 within the neighbourhood

of a polling station is now a cognizable offence punishable with imprisonment up to two years or with fine or with both. Arms found in possession of the offender shall also be liable to confiscation and licence granted in relation to such arms shall also be deemed to have been revoked. These provisions shall, however, not apply in the case of Returning Officer, Presiding Officer, any police officer or any other person appointed to maintain peace and order at the polling station, (vii) Grant of paid holiday to employees on the day of poll. All registered electors who are employed in any business, trade, industrial undertaking or any other establishment shall be entitled to a paid holiday on the day of poll. Even the daily wagers will receive their wages for the said day. But this will not apply in the case of an elector whose absence may cause danger or substantial loss in respect of the employment in which he is engaged. Any employer contravening the law shall be punishable with fine up to Rs 500, (viii) Prohibition on sale, etc., of liquor. No liquor or other intoxicants shall be sold, given or distributed at any shop, eating place, hotel or any other place, whether public or private, within a polling area during the period of 48 hours ending with the hour fixed for the conclusion of poll. Any person contravening the law shall be punishable with imprisonment up to six months or with fine up to Rs 2,000 or with both, and (ix) Time limit for holding bye-elections: Bye-elections to any House of Parliament or a State Legislature will now be held within six months of occurrence of the vacancy in the House. However, this stipulation will not apply where the remainder of the term of the member whose vacancy is to be filled is less than one year or where the Election Commission, in consultation with the Central Government, certifies that it is difficult to hold the bye-election within the said period.

The President issued an ordinance on 5 June 1997, called the Presidential and Vice-Presidential Elections (Amendment) Ordinance, 1997 whereby number of proposers and seconders for contesting election to the office of the President of India was increased to fifty each in place of ten, number of electors as proposers and seconders for contesting Vice-Presidential election was increased to 20 each in place of five. The amount of security deposit has been increased to Rs 15,000 in place of Rs 2,500 for contesting election to the offices of President and Vice-President.

An ordinance was promulgated to amend section 60 of the Representation of the People Act, 1951 for inserting a new sub-section (c) for making provisions for voting by certain classes of persons through postal ballot. The provision was meant to facilitate right of franchise by migrants from Kashmir valley in view of the then impending General Elections to the twelfth Lok Sabha.

RESERVATION OF SEATS

The Constitution (Fifty-seventh Amendment) Act, 1987 provides for determination of seats reserved for scheduled tribes in Arunachal Pradesh, Meghalaya, Mizoram and Nagaland by amending Article 332 of the Constitution. Under the Representation of the People (Amendment) Act, 1987,

59 out of 60 seats in Arunachal Pradesh, 55 out of 60 in Meghalaya, 49 out of 60 in Mizoram and 59 out of 60 in Nagaland were reserved for scheduled tribes. Election Commission has identified 55 reserved seats in Meghalaya, 59 in Nagaland, 59 in Arunachal Pradesh and 49 in Mizoram.

After the Constitution (Sixty-ninth Amendment) Act, 1991, the Union Territory of Delhi became the National Capital Territory of Delhi from 1 February 1992. A legislative assembly with 70 seats was provided in place of 56 metropolitan council seats. Under the Government of National Capital Territory of Delhi Act, 1991, seven out of 70 seats were reserved for scheduled castes.

The Constitution (Seventy-second Amendment) Act, 1992 provides for determination of seats reserved for scheduled tribes in Tripura by amending Article 332 of the Constitution. Under the Representation of the People (Amendment) Act 1992, three more seats were reserved for STs. The total number of seats reserved for STs in Tripura became 20 instead of 17 as it was prior to the amendment.

In pursuance of Section 4 of the Jammu and Kashmir Representation of the People Act, 1957, the order made by the Delimitation Commission under clause (d) of sub-section 3 of section 4 of the Act in respect of delimitation of Assembly Constituencies in the State of Jammu and Kashmir was published in the Jammu and Kashmir Government Gazette on 27 April 1995, the seats were increased from 76 to 87 in which seven seats are reserved for scheduled castes.

ELECTRONIC VOTING MACHINES

The Representation of the People Act, 1951 was amended to facilitate use of electronic voting machines in elections by inserting section 61 A with effect from 15 March 1989. Electronic Voting Machines (EVMs) were first used in November 1998 in various constituencies in the State elections of Rajasthan, Madhya Pradesh and Delhi. The entire State Assembly elections in Goa in June 1999 were held with EVMs. The Commission continued to hold bye-elections across the country by using EVMs.

GENERAL ELECTIONS

First general election in India on the basis of adult suffrage was held in 1951-52. This was a simultaneous election both for the Lok Sabha and all state legislative assemblies (including Part A, B and C states). Second general election held in 1957, shortly after reorganisation of states, was also a simultaneous election. In third general election in 1962, elections to state assemblies of Kerala and Orissa became out of step with general election with the result that simultaneous elections could not be held in these two states. Similarly in 1967, simultaneous elections could not be held in Nagaland and Pondicherry along with fourth general election to the Lok Sabha. After 1967 election to most of the assemblies had to be held earlier than normally due with the result that Orissa, Tamil Nadu and West Bengal had simultaneous elections to the Lok Sabha and state assemblies at fifth general election held

in 1971. In 1977, Kerala was the only state where election to legislative assembly was held simultaneously with sixth general election. When seventh general election was held in January 1980, election to constitute new assemblies were held simultaneously only in Manipur, Arunachal Pradesh, Goa, Daman and Diu and Pondicherry. Polling for eighth Lok Sabha election was held on 24, 27 and 28 December 1984 in 20 States and nine Union Territories except Assam and Punjab. Election for assemblies of Tamil Nadu, Manipur, Arunachal Pradesh and Goa, Daman and Diu were also held simultaneously.

The term of eighth Lok Sabha was up to 14 January 1990. General election to the ninth Lok Sabha was held on 22, 24 and 26 November, 1989 except in Assam where revision of rolls was not completed by that time. Simultaneous election was also held to constitute new assemblies in Andhra Pradesh, Goa, Karnataka, Sikkim and Uttar Pradesh.

The ninth Lok Sabha did not serve its full term. The House was dissolved on 12 March 1991. Elections to the 511 seats of the tenth Lok Sabha, except six seats in Jammu and Kashmir and 13 seats in Punjab, were held on 20 May, 6, 8, 12 and 15 June 1991. Elections were also held to the state assemblies of Assam, West Bengal, Uttar Pradesh, Haryana, Kerala, Tamil Nadu and Pondicherry. Bye-election to 15 Lok Sabha seats and 56 assembly seats in 14 states was held on 16 November 1991. Elections to the Lok Sabha and assembly seats in Punjab were held on 9 February 1992.

The term of the tenth Lok Sabha was up to 8 July 1996. The general election to the eleventh Lok Sabha was held on 27 April, 2, 7, 23, 27 and 30 May 1996. Simultaneous elections were also held to constitute new assemblies in Kerala, Tamil Nadu, Haryana, West Bengal, Assam and Pondicherry. Assembly election in the State of Jammu and Kashmir was held on 7, 16, 21 and 30 September 1996 after a gap of nearly nine years. The election to constitute new assembly in Uttar Pradesh was held on 30 September, 3 and 7 October 1996. Election to constitute the new Assembly in Punjab was also held on 7 February 1997.

The term of the eleventh Lok Sabha was up to 4 December 1997. The general elections to the twelfth Lok Sabha were held on 16, 22, 28 February and 7 March 1998 for 539 Parliamentary constituencies. General elections for state legislative assemblies of Madhya Pradesh, Mizoram, NCT of Delhi and Rajasthan were held on 25 November 1998.

The term of the twelfth Lok Sabha ended on 26 April 1999. The general elections to thirteenth Lok Sabha were held on 5, 11, 18 and 25 September and 3 October 1999. Elections for Goa legislative assembly were held on 4 June 1999. On 28 October 1999 polling in four constituencies of Bihar, and one constituency of Assam took place. On the same date repolling was held for the Outer Manipur seat. Simultaneous elections were also held to constitute new assemblies in Andhra Pradesh, Arunachal Pradesh, Karnataka, Maharashtra and Sikkim.

Elections to constitute new assemblies of Bihar, Haryana, Manipur and Orissa were held on 12, 17 and 22 February 2000.

TABLE 3.1 : LOK SABHA AND ITS SPEAKER(S) FROM TIME TO TIME

LOK SABHA	SPEAKER ¹			
	Date of first meeting after its constitution	Date of dissolution	Name	From To
First Lok Sabha	13 May 1952	4 April 1957 ²	Ganesh Vasudev Mavalankar	15 May 1952 27 February 1956 ³
Second Lok Sabha	10 May 1957	31 March 1962 ⁴	M. Ananthasayanam Ayyangar	8 March 1956 10 May 1957
Third Lok Sabha	16 April 1962	3 March 1967 ⁵	M. Ananthasayanam Ayyangar	11 May 1957 16 April 1962
Fourth Lok Sabha	16 March 1967	27 December 1970 ⁶	Hukam Singh	17 April 1962 16 March 1967
			Neelam Sanjiva Reddy	17 March 1967 19 July 1969 ⁷
			Gurdial Singh Dhillon	8 August 1969 19 March 1971
Fifth Lok Sabha	19 March 1971	18 January 1977 ⁸	Gurdial Singh Dhillon	22 March 1971 1 December 1975 ⁹
			Bah Ram Bhagat	5 January 1976 25 March 1977
Sixth Lok Sabha	25 March 1977	22 August 1979 ¹⁰	Neelam Sanjiva Reddy	26 March 1977 13 July 1977 ¹¹
			K.S. Hegde	21 July 1977 21 January 1980
Seventh Lok Sabha	21 January 1980	31 December 1984 ¹²	Bal Ram Jakhar	22 January 1980 15 January 1985
Eighth Lok Sabha	15 January 1985	27 November 1989 ¹³	Bal Ram Jakhar	16 January 1985 18 December 1989
Ninth Lok Sabha	18 December 1989	13 March 1991 ¹⁴	Rabi Ray	19 December 1989 9 July 1991
Tenth Lok Sabha	9 July 1991	10 May, 1996	Shivraj V. Patil	10 July 1991 22 May 1996
Eleventh Lok Sabha	22 May 1996	4 December, 1997 ¹⁵	P.A. Sangma	23 March 1998 (FN) ¹⁶
Twelfth Lok Sabha	23 March 1998	26 April 1999 ¹⁷	G.M.C. Balavogi	24 March 1998 20 October 1999 (FN)
Thirteenth Lok Sabha	20 October 1999	—	G.M.C. Balavogi	22 October 1999 Till date

¹ Under Article 94 of the Constitution, in case of dissolution of the Lok Sabha, the Speaker does not vacate his office until immediately before the first meeting of the House after dissolution.

² Dissolved 38 days before expiry of its term.

³ Died.

⁴ Dissolved 40 days before expiry of its term.

⁵ Dissolved 44 days before expiry of its term.

TABLE 3.1 (Contd.)

- ⁶ Dissolved one year and 79 days before expiry of its term.
- ⁷ Resigned.
- ⁸ Term of the Lok Sabha which was to expire on 18 March 1976 was extended by one year upto 18 March 1977 by the House of the People (Extension of Duration) Act, 1976. It was extended for a further period of one year upto 18 March 1978 by the House of the People (Extension of Duration) Amendment Act, 1976. However, the House was dissolved after having been in existence for a period of five years, 10 months and six days
- ⁹ Resigned.
- ¹⁰ House was dissolved after having been in existence for a periods of two years, four months and 28 days
- ¹¹ Resigned.
- ¹² Dissolved 20 days before expiry of its term.
- ¹³ Dissolved 48 days before expiry of its term.
- ¹⁴ Dissolved after having been in existence for a period of one year, two months and 25 days.
- ¹⁵ House was dissolved after having been in existence for a period of one year, six months and 13 days.
- ¹⁶ House was dissolved after having been in existence for a period of one year, one month and four days.

TABLE 3.2 (Contd.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Uttar Pradesh		34	85	29	10	-	-	26	-	14	-	-	-	-	-	-	-	-	5 ¹²	-	
West Bengal		16	42	2	3	21	-	-	-	-	-	-	-	-	-	9	-	-	7 ¹¹	-	
UNION TERRITORIES																					
Andaman & Nicobar Islands		-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chandigarh		-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dadra & Nagar Haveli		-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Daman & Diu		-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Delhi		3	7	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lakshadweep		-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pondicherry		1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nominated		12	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total		245	545	181	114	33	29	26	15	14	12	11	10	10	10	9	8	7	47	6	1

All India Mahila-e-Itehadul Muslimeen - I

1. **Dr. P. V. Narayana Murthy**, MGR All India Anna Dravida Munnetra Kazhagam-1

नासुनिय़ा लोक डाल-2; अक़िल भनारतिया लोकान्त्रिक कंग्रेस-2. समजवादी जानात पार्टी (Rashtriva)-1

Communist Party of India-2, Forward Block-2, Revolutionary Socialist Party-3

4 Defence

INDIA's defence policy aims at promoting and sustaining durable peace in the sub-continent and equipping the defence forces adequately to safeguard aggression.

The Supreme Command of the armed forces is vested in the President of India. The responsibility for national defence, however, rests with the Cabinet. The Defence Minister is responsible to Parliament for all matters concerning defence. Administrative and operational control of the armed forces is exercised by the Ministry of Defence and the three services headquarters.

ORGANISATION

The three services function under their respective Chiefs of Staff. As on 1 October 2000, the Chiefs of Staff are :

Chief of the Army Staff : General S. Padmanabhan

Chief of the Naval Staff : Admiral Sushil Kumar

Chief of the Air Staff : Air Chief Marshal A.Y. Tipnis

ARMY

At the Army headquarters in New Delhi, the Chief of the Army Staff is assisted by the Vice-Chief of the Army Staff and seven other Principal Staff Officers, namely, the two Deputy Chiefs of the Army Staff, Adjutant General, Quarter-Master General, Master General of Ordnance, Military Secretary and Engineer-in-Chief.

The Army is organised into operational Commands. Each Command is under a General Officer Commanding-in-Chief who holds the rank of Lieutenant General. The major field formations are Corps, Division and Brigade commanded by a General Officer Commanding of the rank of Lieutenant General, a General Officer Commanding of the rank of Major General and Brigadier, respectively. The static formations are Area, Independent Sub-Area and Sub-Areas. An Area is commanded by a General Officer Commanding of the rank of Major General and an independent Sub-Area and Sub-Area by a Brigadier.

The Army consists of a number of arms and services. These are Armoured Corps, Regiment of Artillery, Corps of Air Defence Artillery, Army Aviation Corps, Corps of Engineers, Corps of Signals, Mechanised Infantry, Infantry, Army Service Corps, Military Nursing Service, Army Medical Corps, Army Dental Corps, Army Ordnance Corps, Corps of Electrical and Mechanical Engineers, Remount and Veterinary Corps, Military Farms Service, Army Education Corps, Intelligence Corps, Corps of Military Police, Judge Advocate

General Department, Army Physical Training Corps, Pioneer Corps, Army Postal Service, Territorial Army, Defence Security Corps. In addition, the Army has its own Recruiting Organisation, Record Offices, Depots, Boys Establishments and Selection Centres and Training institutions.

NAVY

India's location in the Indian Ocean Region gives it a pre-eminent geo-strategic location. Surrounded by water on three sides with far-flung island territories and resource rich EEZ, the country has considerable maritime interests. 97 per cent of India's trade comes from the Sea and the country expands prominent international shipping routes. The responsibility for the defence and security of these maritime interests and assets devolves upon the Indian Navy which has inherited a proud seafaring legacy.

The Navy is headed by the Chief of Naval Staff at the Naval headquarters, New Delhi. He is assisted by four Principal Staff Officers, namely Vice-Chief of Naval Staff, Deputy Chief of Naval Staff, Chief of Personnel and Chief of Material.

The Navy has three commands, *i.e.*, Western, Eastern and Southern with their headquarters at Mumbai, Visakhapatnam and Kochi respectively. Each command is headed by a Flag Officer Commanding-in-Chief in the rank of Vice-Admiral. The Western and Naval Commands are the two operational commands and have the Western and Eastern fleets respectively under them comprising ships and aircraft. There are two submarines flotillas located at Mumbai and Vishakhapatnam. Southern Naval Command is responsible for all training activities of the Indian Navy.

The Indian Navy is a well-balanced three-dimensional force consisting of sophisticated missile-capable warships, guided missiles destroyers and aircraft carrier, frigates, Corvettes, minesweepers, advanced submarines and the latest aircraft in its inventory. Many of the warships are indigenously designed and have been constructed in Indian shipyards. These ships compare well with the ships of similar capability constructed by the advanced countries. The Naval forces are maintained and supported by modern dockyard facilities.

COAST GUARD

The Coast Guard came into being on 1 February 1977 and was constituted as an independent Armed Force of the Union of India with the enactment of CG Act 1978 on 18 August 1978. The Coast Guard's broad Charter of Duties includes: (a) Safety and protection of offshore installations and artificial islands; (b) Providing protection to fishermen in distress; (c) Protection of maritime environment; (d) Assisting Customs in anti-smuggling operations; (e) Enforcement of MZI Act; (f) Safety of life and property at sea; and (g) Prevention and Control of Marine Pollution.

The general superintendence, direction and control of the Coast Guard

is exercised by the Director General Coast Guard under the Ministry of Defence.

The entire coastline of India and the national maritime zones have been divided into three Coast Guard Regions, namely, Western, Eastern and Andaman and Nicobar Islands, under the respective Commanders of the regions. The Regional Headquarters are located at Mumbai, Chennai and Port Blair.

The Coast Guard Regions are divided into eleven Coast Guard Districts based in our maritime states. There are five District Headquarters on the West Coast, namely Porbandar, Mumbai, Goa, New Mangalore and Kochi. Four on the East Coast, namely Chennai, Vishakhapatnam, Paradip and Haldia and two District Headquarters in Andaman and Nicobar Islands, namely Diglipur and Campbell Bay. In addition, there are Coast Guard Stations and Air Enclaves at various locations.

Beginning with two frigates and five Seaward Defence Boats (SDBs), the Coast Guard Service has made rapid progress in the last 23 years. The service has now developed into a full-fledged maritime organisation with three Advanced Offshore Patrol Vessels (AOPVs), nine Offshore Patrol Vessels (OPVs), 23 Fast Patrol Vessels (FPVs), 24 Interceptor Boats (IBs) and Interceptor Crafts (ICs), 17 *Dornier* Aircrafts and 17 *Chetak* Helicopters. In addition, six Hovercrafts, two Fast Patrol Vessels, two Interceptor Boats, one Advanced Offshore Patrol Vessel, and seven *Dorniers* have been approved by the Government for induction in Coast Guard. Induction of one Advance Offshore Patrol Vessel, four Pollution Control Vessels, four Advanced Light Helicopters and three medium range surveillance Aircrafts have also been approved in the Coast Guard Development Plan 1997-2002.

AIR FORCE

At Air headquarters in New Delhi, the Chief of the Air Staff is assisted by the Vice-Chief of Air Staff responsible for Operations, the Deputy Chief of Air Staff responsible for acquisition and planning, Inspector General of Flight Safety and Inspection, Air Officer In-charge maintenance, Air Officer In-charge Administration and Air Officer In-charge Personnel and Training.

The IAF has constantly monitored the threat perception and has taken effective counter measures by maintaining the highest level of vigilance and combat worthiness to meet any current and future threats to the security of the nation. The IAF has planned innovatively and effectively to maintain as well as enhance its operational capability and technological prowess. Today the Air Force has in its inventory a wide array of modern aircrafts and support equipment, weapon systems, communications and detection systems which gives it formidable offensive and defensive capability in any dimension. The teeth of the Air Force are in its air superiority fighter aircraft, multi role combat aircraft and strike/air defence/ reconnaissance aircraft. The older generation aircraft like *Hunter* has been phased out and *Canberra* is presently used in limited operational roles.

The recruitment and training of its personnel has become broadbased and specialised. The Service has opened its doors to induction of women as officers in all its branches including flying branch. The first batch of women pilots were commissioned on 17 December 1994. Since then women pilots are serving in front-line transport and helicopter squadrons. Women officers are also serving in technical, administrative, education, medical, air traffic and fighter controller branches. Thus nearly all branches of the Air Force have women officers serving alongside their male counterparts.

COMMISSIONED RANKS

The following are the commissioned ranks in the three services; each rank is shown opposite its equivalent in the other service:

Army	Navy	Air Force
General	Admiral	Air Chief Marshal
Lieutenant General	Vice Admiral	Air Marshal
Major General	Rear Admiral	Air Vice Marshal
Brigadier	Commodore	Air Commodore
Colonel	Captain	Group Captain
Lieutenant Colonel	Commander	Wing Commander
Major	Lieutenant Commander	Squadron Leader
Captain	Lieutenant	Flight Lieutenant
Lieutenant	Sub Lieutenant	Flying Officer

RECRUITMENT

The Armed Forces epitomise the ideals of service, sacrifice, patriotism and our country's composite culture. The recruitment to the Armed Forces is voluntary and every citizen of India, irrespective of his caste, class, religion and community is eligible for recruitment into the Armed Forces provided he meets the laid down physical, medical and educational criteria. Recruitment into the Army is carried out according to recruitable male population of each state.

INDUCTION OF WOMEN INTO THE ARMED FORCES

Eligible women are recruited as officers on Short Service Commission basis in the following Branches of the Armed Forces: Army : EME, Signals, Engineers, Army Education Corps, Army Ordnance Corps, Army Service Corps, Intelligence and Judge Advocate General's Branch; Navy : All Branches of the Indian Navy; and Air Force : Flying, Aeronautical Engineering (Electronics), Aeronautical Engineering (Mechanical) Education, Administration, Logistics, Accounts and Meteorology.

RECRUITMENT OF COMMISSIONED OFFICERS

Recruitment of Commissioned Officers in the Armed Forces is mainly through the Union Public Service Commission (UPSC). For Technical Branches, women special entry scheme, NCC special entry scheme and service entries is made directly through the respective Recruiting Directorates for the Army, the Navy and the Air Force.

The UPSC holds an all-India competitive examination, known as the Combined Defence Services Examination (CDSE), twice a year. University graduates are eligible to appear in the examination.

Successful candidates join the respective training academies, viz., the Indian Military Academy (IMA) for the Army, the Naval Academy for the Navy and the Air Force Academy for the Air Force. The UPSC also holds an examination for entry into the National Defence Academy (NDA) twice a year. Candidates on completion of the 10+2 Examination or while in the 12th standard, are eligible to compete in this examination. The successful candidates on completion of their NDA course are sent to the respective service academies for pre-commission training.

Recruitment through Service Selection Boards/Air Force Selection Board is made for the following branches of the Army, Navy and Air Force: Army : All Arms and Services; Navy : Electrical Engineering, Engineering (Naval Architects), Logistics, Law, Education, Air Traffic Control; and Air Force : Aeronautical Engineering (Electronics), Aeronautical Engineering (Mechanical), Education, Administration, Logistics, Accounts and Meteorology.

Final/pre-final year students in engineering disciplines are eligible for induction into the technical branches/services of the Army as Commissioned Officers under the University Entry Scheme.

To alleviate the shortage of Technical Officers (Engineering) in the Army, the Government has approved the Short Service Commission (Technical) Entry Scheme. This envisages recruitment of qualified technical graduates through the SSBs, to attend the Officers Training Academy (OTA), Chennai, after medical tests, for a ten-month course. On completion of training the successful candidates are inducted as Short Service Commissioned Officers in the technical branches of the Army.

Medical graduates from the Armed Forces Medical College, Pune are directly inducted as permanent Commissioned Medical Officers in the Armed Forces. For recruitment of Regular Commissioned/Short Service Commissioned Medical Officers from the graduates/post graduates of Civil Medical Colleges, the Director General of the Armed Forces Medical Services conducts an all India competitive examination.

University graduates possessing NCC 'C' Certificate with minimum 'B' grading and 50 per cent marks in graduation are inducted in the Navy and Air Force as Regular Commissioned Officers and as Short Service

Commission Officers in the Army. These graduates are exempted from appearing in the CDSE conducted by the UPSC and are selected through the SSBs.

Government has approved the creation of a 6,000 strong Support Cadre of Special Commissioned Officers. These posts will be filled up by eligible JCOs and OR. Under this entry, serving JCOs/NCOs/OR in the age group of 30-35 years, with an Army Senior School Certificate Pass (Class XI CBSE Pattern) qualification, will be eligible for commission after screening/selection through Service Selection Board and a Medical Board. They will undergo a pre-commission training of six months' duration. The officers so commissioned will earn promotion up to the rank of Colonel. The rules for substantive promotion and acting promotion will be the same as for regular officers. These officers will be employed in units as sub unit Cadres/QM job/ERE appointments, etc., up to the rank of Major. They will retire at the age of 57 years after serving about 20-25 years as officers. The scheme will not only improve the career prospects of the existing JCOs/NCOs/OR but will also help in making up the deficiency of officers in the Army to a considerable extent.

Under this scheme which is being introduced shortly, candidates with 10+2 qualification, after selection through SSB, will be sent for military and engineering training at IMA and the College of Military Engineering, Pune. Initial six months military training will be followed by Degree Engineering training of four years. This scheme will help in bringing down the deficiency of officers in Technical Arms/Services.

RECRUITMENT OF OTHER RANKS

Recruitment to the Army is carried out according to the Recruitable Male Population (RMP) of each State. The RMP of a state is reckoned to be 10 per cent of the male population of that state. Recruitment of Airmen to the Air Force is done through the Central Airmen Selection Board, located at the Air Force Station, New Delhi. There are 13 selection centres under this Board.

A new system of recruitment has been introduced with effect from 1 April 1998. Under the revised system, recruitment of *jawans* in the Army is carried out through open recruitment rallies planned well in advance, keeping in view the geographical, demographical and topographical considerations. At least one such rally is held in each month, combining districts, areas and regions, depending upon the response anticipated. Advance publicity is made of an ensuing rally in a particular area/district.

TERRITORIAL ARMY

The Territorial Army is an organisation of units formed by ordinary citizens from all walks of life who generally, while continuing to pursue their normal vocations also volunteer for military service. These citizens on joining the Territorial Army undergo a short period of rigorous training, which makes them reasonably competent soldiers. Subsequently, they join their units for

two months every year for refresher training to keep in touch with the art of soldiering. Whenever a need arises, personnel of the Territorial Army are called up for active service and join their units within a specified time frame. These units now at full strength, are, generally, put through a short period of vigorous training for active service. When on active service, Territorial Army Units are employed on duties in support of the Regular Army. Units of the Territorial Army have participated in wars along with the regular Indian Army. They have been raised to maintain essential services like Railways, Oil Sector and Medical (Departmental Units) during emergencies. Some units formed for national development tasks like re-afforestation and reclamation of wasteland have rendered commendable services.

NATIONAL CADET CORPS

The National Cadet Corps (NCC) established on 15 July 1948 has emerged as the single largest structured youth movement in India. It has 12 lakh boys and girls in the Senior and Junior Divisions in the Army, Navy and Air Force Wings. This strength covers 4.1 per cent of the eligible student population in the country. One lakh additional vacancies have been approved by MoD for enrolment commencing July 2000. Directorate General, NCC located at New Delhi controls and oversees various activities of the NCC through 16 NCC Directorates spread across the country. There is a Central Advisory Committee for the NCC to provide overall policy guidelines. NCC is manned by the service personnel, whole time NCC officers, teachers/professors and civilians. One lecturer/teacher in each educational institution is appointed Associate NCC officer.

The NCC whose motto is 'Unity and Discipline' has the following aims : (a) to develop qualities of character, courage, comradeship, secular outlook, spirit of adventure and sportsmanship and the ideal of selfless service among the youth to make them useful citizens; (b) to create a human resource of organised, trained and motivated youth to provide leadership in all walks of life including the Armed Forces and to be always available for the service of the nation.

During 1999-2000, 21 Centrally organised camps were held. Sixty-eight National Integration Camps were conducted across the country in which nearly 41.5 lakh cadets participated. A total of 4.72 lakh cadets attended 745 Annual Training Camps during 1999-2000. The NCC has ongoing reciprocal youth exchange programmes with the U.K., Singapore, Nepal, Bangladesh and Sri Lanka involving the visits of different teams of officers and cadets (boys & girls) to these countries.

TRAINING INSTITUTIONS

SAINIK SCHOOLS

The scheme to establish Sainik Schools was started in 1961 to broad base the recruitment to the officers cadre of the Defence Forces. Sainik Schools are joint venture of the Central and State Governments. At present 18 Sainik Schools,

one each in all major states are administered by the Sainik Schools Society. Boys from a state which does not have a Sainik School of its own are admitted to schools in adjoining states. Sainik Schools are fully residential and admit students in classes VIth and IXth strictly in order of merit obtained in the All India Sainik School Entrance Examination held in February each year. The tuition fee per student is Rs 20,000 per annum. These schools are affiliated to the Central Board of Secondary Education and follow the 10+2 pattern, in science stream.

The pass percentage of Sainik School students in Class Xth and XIIth CBSE Examinations during the academic session of 1998-99 was 99.60 per cent and 93.43 per cent respectively. 104 students from Sainik Schools joined the NDA in 1999. So far, 5,137 students from the Sainik Schools have joined the NDA.

NATIONAL DEFENCE ACADEMY

The National Defence Academy (NDA), Khadakwasla, is a joint service institution for training young cadets as future officers of the Defence Services. The motto of the Academy is *Sewa Paramo Dharma* (Service Before Self). As part of their training, cadets are provided academic inputs. The syllabus of the Academy has been approved by the Jawaharlal Nehru University for the grant of BA/B.Sc. degree at the time of passing from the Academy. As on date, the strength of cadets is 1,822. This includes 69 cadets from Bhutan, six from Palestine and one from Maldives.

INDIAN MILITARY ACADEMY

The Indian Military Academy (IMA), Dehradun, established in 1932, caters training to cadets for commission into the Army. The training enables the Gentlemen Cadets to develop intellectual, moral and physical qualities through basic military training and broad academic education; qualities of dynamism, initiative and understanding which form the very basis of leadership, in war as well as in peace. The motto of the Academy is *Veerta Aur Vivek* (Valour and Wisdom). The present strength of IMA is 1,653.

OFFICERS TRAINING ACADEMY

The Officers Training Academy (OTA), Chennai, imparts pre-commission training for the following courses: (a) Short Service Commission Course of 44-weeks for university graduates who qualify in the Union Public Service Commission; (b) course of six months for lady cadets (Women Special Entry Scheme); and (c) Permanent Commission on Special List (PCSL) to selected service candidates, who qualify after a training of four weeks. Authorised training strength of the Academy is 500. So far 468 lady cadets have been granted Short Service Commission.

RASHTRIYA INDIAN MILITARY COLLEGE

Education on public-school lines is imparted at the Rashtriya Indian Military College, Dehradun, principally for the boys who subsequently desire to join

the NDA with a view to obtaining a commission in the Armed Forces. The College admits students in class VIII through a written examination-cum-viva voce test conducted under the aegis of the State Governments throughout India twice every year in February and August. The college has the distinction of having had on its rolls three Chiefs of Army Staff and a Chief of Air Staff.

NATIONAL DEFENCE COLLEGE

The National Defence College (NDC) was founded in 1960 to prepare senior Defence and Civil Service officers for a comprehensive understanding of major problems of national security and strategy. The NDC course has been designed to cover socio-political, economic, technological, diplomatic and military dimensions of national security. The course is conducted over 47 weeks through seven main studies and the study tours.

ARMY CADET COLLEGE

Army Cadet College is a wing of IMA which caters to the training of service cadets selected for commission. The academic format is similar to the NDA on the lines of 10+2+3 and the syllabus is common. On completion of the course, these cadets also qualify for a BA/BSc degree recognised by the Jawaharlal Nehru University.

ARMY SCHOOL OF PHYSICAL TRAINING

Army School of Physical Training (ASPT), Pune was established in 1947. It has training infrastructure to impart systematic and comprehensive instructions on physical training. Selected candidates from all ranks of the Army, students from the police, para-military forces and friendly foreign countries attend various courses on physical training, yoga, martial sports and allied subjects at ASPT.

OTHER TRAINING CENTRES AND SCHOOLS

The College of Combat, Mhow, conducts the higher command, senior command and junior command courses for Army officers. It also conducts a Combined Operational Review and Evaluation (CORI) programme for selected senior officers of the rank of Major General and equivalent of the three Services and Formation Commander Orientation Programme (FCOP) for Brigadier and General Officers of the Army once every year. College of Military Engineering, Kirkee (Pune), imparts training to the officers and other ranks in all aspects of military engineering. Long courses of over two years duration are also conducted to train officers up to degree standards. The Military College of Telecommunication Engineering, Mhow imparts basic and advanced technical training in telecommunications and signal tactics. The Armoured Corps Centre and School, Ahmednagar conducts training in tactical handling of armoured fighting vehicles, driving and maintenance. The School of Artillery, Deolali provides training in field branch artillery. The Army/Air Defence College Gopalpur-on-sea trains personnel of the Air Defence Artillery. The High Altitude Warfare School located at Gulmarg and Sonmarg trains

personnel in the art of mountain warfare including rock, snow and ice-craft. The Counter Insurgency and General Warfare School, Valrengate trains officers and men in the art of combating insurgency.

Junior Leaders Academy, Bareilly conducts institutionalised leadership and motivational training for junior leaders courses comprising JCOs and senior NCOs of all arms and services with Army.

The Mechanised Infantry Regimental Centre conducts basic and technical training for recruits of mechanised infantry. In addition, it runs basic and instructor courses on anti-tank guided missiles for officers, JCOs and other ranks of mechanised infantry. It also carries out conversion training of units when they are converted to mechanised infantry or when change in equipment is involved. The College of Materials Management, Jabalpur, imparts specialised training in materials management including ammunition and explosives and also in contemporary materials management techniques. Some of the other Army training centres and schools are Army Service Corps Centre and College, Bangalore; EME School, Vadodara; Military College of Electronics and Mechanical Engineering, Secunderabad; College of Defence Management, Secunderabad; Remount and Veterinary Corps Centre and School, Meerut; Army Education Corps Training College and Centre, Pachmari; Army School of Physical Training, Pune; Army/Air Transport School, Agra; Military Intelligence Training School and Depot, Pune; Corps of Military Police Centre and School, Bangalore; Institute of Military Law, Kamptee; Armed Forces Medical College, Pune; Institute of National Integration, Pune and Army Medical Corps Centre and School, Lucknow.

PRODUCTION AND SUPPLIES

The Department of Defence Production and the Department of Defence Supplies were merged in December 1984 to constitute the present Department of Defence Production and Supplies. The primary role of the Department is to equip the armed forces of the country with the latest equipment and weaponry systems and to contribute to modernisation of armed forces. This task is being undertaken through 39 ordnance factories and eight defence public-sector undertakings.

ORDNANCE FACTORIES

The Ordnance Factories Organisation consists of 39 factories, some of which are the oldest industrial establishments in the country. The Ordnance Factories play a vital role in equipping the armed forces with weapons, ammunitions, tanks, etc. The Ordnance Factories have evolved into a strategic and dedicated production base for lethal and non-lethal defence stores. Investments on their infrastructure stem from national security and strategic needs. The objective of the organisation is to meet the requirements of the armed forces particularly of the army for conventional lethal and non-lethal hardware. Adequate and timely supply of defence stores of stringent quality specification at minimal cost is the primary consideration. The factories produce military transport

vehicles, infantry combat vehicles, armoured vehicles, optical and opto-electronic instruments, field cables, summer and winter uniforms, tentages, parachutes, miscellaneous leather goods, floats bridges, general stores, civil blasting explosives, etc. Facilities also exist for design and manufacture of captive special purpose machine tools for production of arms and ammunition components.

Besides supply of arms, ammunition and other items to the Armed Forces, the needs of police and the para military organisations are also catered to. Items are also produced for the Railways, Public Sector Undertakings and other Government departments. The Ordnance Factories have taken up continuous upgradation of products and manufacturing technologies to meet emerging requirements of the defence forces.

The Ordnance Factories output for sales during 1999-2000 have been Rs 5,400 crore as compared to Rs 3,957 crore during previous year. The Ordnance Factories have made the following significant achievements during the last few years: (i) Establishing production of 5.56 mm FNSAS weapons and ammunition developed indigenously; (ii) Establishing production of infantry combat vehicle *BMP-II (Sarath)* and tank *Ajeya (T-72)*. Production of indigenously developed main battle tank *Arjun* has also been taken up; (iii) All thirty nine Ordnance Factories have secured certification under IS- 14000/ ISO-9000; and (iv) New generation of armaments having a low weight to high strength ratio viz., T-72, 155mm and 30mm systems of armaments have been productionised in the ordnance factories.

During the Kargil operations in the summer of 1999 against armed Pakistani intrusion into Indian territory, Ordnance Factories increased percentage of critical ammunition items ranging from 60 per cent to 230 per cent over the production of the previous year to meet the additional requirements of the Army.

SUPPLIES WING

The major functions of Supplies Wing, the nodal agency for evolving purchase policies for the Ministry of Defence are: (a) Identification & productionisation of items for import substitution; (b) Productionisation of DRDO developed items through the private sector industry. In order to encourage civil industry for indigenous development of defence stores, a scheme of National Award for Excellence in indigenisation was introduced in 1993-94. The efforts made by the industry in substituting the inputs of defence equipment and stores are duly recognised by the Supplies Wing and the deserving units are presented with suitable awards.

Normally the Supplies Wing deals with the items which require *ab initio* development. However, during the current year in order to meet the operational requirement under "Operation Vijay", the Wing played an important role in meeting the urgent requirements of Armed Forces by placing orders in the shortest possible time.

The value of the developmental defence supply orders placed on the private sector has risen from approximately Rs 60 crore per annum during the early eighties to around Rs 200 crore per annum in recent years. The value of orders placed for *ab initio* development of various defence equipment and stores during 1999-2000 was Rs 278.58 crore and a total number of 2,826 items were indigenised alongwith 13 systems and sub-systems.

The participation of the civil sector in defence production in recent years has greatly enabled it to upgrade its technological base and qualify standards. Defence services, in turn have been able to depend on this sector for a number of assemblies/sub-assemblies. The steps are now being taken to evolve a long-term plan of effective Government & Industry participation to build a strong versatile, expanded and self-reliant indigenous defence production base.

DEFENCE UNDERTAKINGS

The Defence Public Sector Undertakings (DPSUs) were structured with a flexible form of operation, decentralised management and adequate operational autonomy so as to utilise the defence technological base to a wide and diversified range of applications, in addition to the basic task of catering to the needs of the armed forces.

Eight Public-Sector Undertakings (PSUs) currently function under the Department of Defence Production and Supplies. These are: Hindustan Aeronautics Limited(HAL), Bharat Electronics Limited(BEL), Bharat Earth Movers Limited(BEML), Mazgaon Dock Limited (MDL), Garden Reach Shipbuilders and Engineers Limited(GRSE), Goa Shipyard Limited (GSL), Bharat Dynamics Limited(BDL) and Mishra Dhatu Nigam Limited(MIDHANI).

The Hindustan Aeronautics Limited (HAL) was set up in 1964 with its corporate office at Bangalore. The company has 12 divisions located in six States. This is the largest public sector undertaking under the Department of Defence Production and Supplies. Originally incorporated as a private limited company it was converted into a public limited company on 10 July 1995. It is engaged in the design, manufacture, repair and over-haul of aircraft helicopters, aero-engines, avionics, instruments and accessories. HAL has signed a MOU with Boeing USA for supply of high value work packages. All operating divisions of the company have maintained ISO 9001/9002 standard.

The Bharat Electronics Limited(BEL) established in 1954 with its corporate office at Bangalore, has nine units in the country. It is engaged in the design development and manufacture of sophisticated state-of-the-art electronics equipments/components for the use of defence services, para military organisations and other governmental users like All India Radio, Doordarshan, Department of Telecommunications, Police Wireless, Meteorological Department, etc. The BEL is also the premier indigenous source for professional electronic equipment. State-of-the-art manufacturing testing and quality assurance facility has been set up in all units of BEL. On-line computerisation

for materials management, state-of-the-art test facilities, facilities for carrying out environment and reliability checks electro-magnetic interference/Electro Magnetic Compatibility Testing facility, Antenna Testing facility, back-up support from Standardisation, Technical Information and Documentation, Computer Aided Design and Manufacture have made BEL a modern professional Electronic Company. All manufacturing divisions/units of BEL have been accredited with ISO 9001/ISO 9002.

The Bharat Earth Movers Limited (BEML) was incorporated in May 1964 with its corporate office at Bangalore and commenced operations from 1 January 1965. The production units of the company are located at Bangalore, Kolar Gold Fields(KGF) and Mysore in Karnataka. The company is engaged in the production of rail coaches, rail bus and DC EMUs for Indian Railways, Heavy duty trucks/its variants, crash fire tenders, heavy recovery vehicles, PMS bridges, earth moving equipment and aggregates for defence. Other major customers of BEML are Coal India Limited, Neyveli Lignite Corporation, Associated Cement Company, Steel Authority of India Limited, the National Hydro Electric Thermal Power Corporation.

The Mazagon Dock Limited, with corporate office at Mumbai was established on 13 May 1960. The premier defence shipyard in the country, has a capacity to build warships up to 6,000 DWT and merchant ship up to 27,000 DWT. Its product range includes submarines, missile boats destroyers, frigates and corvettes for the Indian Navy and patrol vessels for the Coast Guard. It has diversified products for the oil exploration sector through production and installation of wellhead platforms and diving services for coating/laying sub-sea pipelines. Medium refit and modernisation of submarine *Shishumar* is being undertaken at East yard of the company for the first time in India. The ship building division of the company has been awarded ISO 9001 certificate. The company has manufactured and supplied B-55 Well Head Platform and 7-Clamp on Project to Oil and Natural Gas Commission.

The Garden Reach Shipbuilders and Engineers Limited (GRSE) was incorporated with its corporate office at Calcutta as a joint stock company in 1934, under the name M/s Garden Reach Workshop Limited (GRW). The Government of India acquired the company in 1960. The company builds and repairs warships and auxiliary vessels for the Navy and the Coast Guard. Its product range includes frigate carrier and oil tankers, patrol vessels, attach craft high technology ship borne equipment, portable Bailey type steel bridges, turbine pumps for the agricultural sector, marine sewage treatment plants, diesel engines, etc. Chemical Laboratory of GRSE was certified by the National Accreditation Board for Testing Laboratory.

The Goa Shipyard Limited, located at Vasco-da-Gama primarily builds small and medium size Naval vessels and repair/re-fit of ships/vessels. The company has undertaken construction/re-fit of variety of vessels for the Indian Navy and the coast guard as well as for the non-defence sector.

The Bharat Dynamics Limited (BDL) was set up in 1970 with corporate

office at Hyderabad for manufacture of guided missiles. It possesses the capability to produce advanced guided missile systems. The company has two units at Kanchanbagh and Medak. The company is the prime production agency for missile weaponry systems. BDL has been accorded ISO 9002 certification.

Mishra Dhatu Nigam Limited, located at Hyderabad was incorporated on 20 November 1973. It manufactures special steel, titanium and super alloys required in the aeronautics, space and atomic energy engineering and communication sectors. The company has been accredited with ISO 9002 certification.

RESEARCH AND DEVELOPMENT

The Defence Research & Development Organisation (DRDO) was set up in 1958, amalgamating the Defence Science Organisation and some of the technical development establishments. A separate Department of Defence Research and Development was formed in 1980.

DRDO today has grown from an agency carrying out science-based technical improvements to the existing system to high-technology agency capable of undertaking design, development and integration leading to production of world class weapon systems meeting qualitative requirements of the Services. DRDO has now achieved self-reliance in ammunition, armoured systems, surface-to-surface missiles and advanced computing.

DRDO has developed and led to production a large number of defence systems, equipment and other products as per requirements of the Armed Forces. These include surface-to-surface missile *Prithvi*, pilotless target aircraft, EW systems for the Air Force, 105mm light field gun, 5.56 INSAS rifle, LMG and their ammunition, composite sonar & integrated fire control system *Panchendriya*, sonobuoys, marine acoustic research ship *Sagardhawani*, MBT *Arjun*, 130mm SP gun, 125 FSAPDS, influence mine, limpet mine, illuminating ammunition, a large variety of fuzes, high speed low drag bombs with RTU, low level radar *Indra*, night vision devices, laser range finders target designators, advanced computing systems, a number of wargaming simulation software products sensor materials, electronic devices, meals ready to eat (MRE) and survival rations, extreme cold clothing, NBC protective items/shelters and mountaineering equipment.

Pilotless target aircraft (PTA) *Lakshya*, re-usable aerial target remotely piloted from ground is under limited series production. The first batch of *Lakshya* has been delivered to the Air Force in September 1999. The Army has accorded bulk production clearance for 5.56 mm calibre Indian small arms INSAS rifle (folding butt) and LMG (folding butt) versions. *Dhanush* Naval version of *Prithvi* has been flight tested on 11 April 2000 from a stabilized platform. Remotely piloted vehicle (RPV), *Nishant* has been flight tested in its landing bag configuration for damage free recovery. The multi-span bridging system *Sarvatra* having 5 spans of 15m each and capable of covering

75m obstacle, has undergone final phase of user trials in October 1999. The mobility, stability and manoeuvrability of the vehicle have been proved. The other major programmes which have been progressed during the year are light combat aircraft (LCA), its engine *Kaveri*, various missiles under IGMDP, multi-barrel rocket system *Pinaka* and EW systems for the Army and the Navy.

Meals ready to eat (MRE) and survival rations for troops were supplied during the recent operations. These rations do not require any cooking as the contents are thermally processed and can be consumed readily with a little warming, if required. Fresh milk and local green-house grown leafy vegetables during frozen winter are being supplied to Siachen troops.

RESETTLEMENT AND WELFARE OF EX-SERVICEMEN

In order to maintain the youthful profile of the Armed Forces, over 60,000 service personnel are retired/released every year at a comparatively young age. As per statistics a total of 15,44,600 ex-servicemen (ESM) and 3,06,539 widows have been registered and reported to be surviving as on 31 December 1999. The Directorate General of Resettlement(DGR) under the Ministry of Defence(MoD) looks after all matters connected with resettlement and welfare of ex-servicemen and their dependents. A Kendriya Sainik Board (KSB) under the Chairmanship of the Defence Minister has been established for laying down general policies for the welfare of ex-servicemen and their dependents for the administration of welfare funds, and also for co-ordinating the work of the Sainik Boards in the country. At the State level the Rajya Sainik Boards (RSBs) and at the district level the Zila Sainik Boards (ZSBs) have been established. The Government of India bears 50 per cent of the expenditure incurred and the remaining expenditure is borne by the respective State Governments.

RESETTLEMENT

Resettlement activities for the retired/retiring service personnel consist of the following: (a) Training programmes to re-orient retiring Defence personnel towards civil employment; (b) Providing employment opportunities in government/semi-government/public sector organisations; and (c) Schemes for self-employment.

TRAINING

For retiring service officers the following training programme were introduced during the year 1999-2000: (a) E-Commerce and Web designing; (b) PG Diploma in Personnel and Industrial Management; (c) Fire Engineering and Safety Management; and (d) Event Management. Duration of various courses has been increased. The vocational training, ITI training and on-the-job training are presently being conducted for retiring service personnel other than officers. A total of 8,603 personnel were trained during 1999-2000.

RE-EMPLOYMENT

Re-employment constitutes a major means of rehabilitation of ex-servicemen.

To achieve this goal both the Central and State Governments have provided various concessions/facilities. These include reservation of posts, relaxation in age/educational standards, priority in employment, etc. The Central Government has reserved 10 per cent of Group 'C' and 20 per cent of Group 'D' posts for ex-servicemen in Central ministries/departments. The percentage of reservation in public sector undertakings and nationalised banks in these categories are 14.5 and 24.5 per cent respectively. Reservation under the State Government varies from two per cent to 20 per cent.

DGR has been nominating ex-servicemen security agencies to various PSUs and private sector organisations. These security agencies provide employment opportunities for officers and other ranks. There are over 690 ex-servicemen security agencies which are registered with DGR, of which 522 have been sponsored for work. This alone has generated during last five years employment opportunities for 43,953 ex-servicemen and over 550 officers.

SCHEMES FOR SELF-EMPLOYMENT

Three important schemes for self-employment for ex-servicemen, SEMFEX-I, SEMFEX-II and SEMFEX-III, were launched in collaboration with the Small Industries Development Bank of India, National Bank for Agricultural Rural Development (NABARD) and the Khadi and Village Industries Commission (KVIC) for providing extensive self-employment opportunities for ex-servicemen and their dependants.

Under the SEMFEX-I Scheme launched in April 1987, financial assistance is provided to ex-servicemen to set up small scale industrial projects for self-employment. Loans under this scheme are provided by the respective State Financial Corporation. As on 31 March 1999, there were 6,727 beneficiaries and the amount sanctioned is to the tune of Rs 275.56 crore since inception.

The SEMFEX-II Scheme was launched in January 1988 in collaboration with NABARD to provide assistance for agricultural and allied activities and also, for setting up of cottage, small scale industries and service sector activities in rural areas. Under the scheme, re-finance assistance, up to Rs two lakh shall be granted as composite loans, which can be used for investment and for working capital purposes. Units requiring assistance in excess of Rs two lakh can be sanctioned up to a re-finance ceiling of Rs 15 lakh under the Integrated Loan Scheme.

Similarly, assistance is available for purchase of sales van, mobile/static sales cards and kiosks for marketing of rural non-farm products.

The SEMFEX-III Scheme was launched in October 1991 in collaboration with the Khadi and Village Industries Commission (KVIC) but was implemented from 1992-93. It provides self-employment opportunities to ex-servicemen, widows of ex-servicemen and disabled service personnel for setting up of village industries in the purview of KVIC. Under the scheme, ex-servicemen and their widows are eligible to take up self-employment ventures. Financial assistance is provided under a liberalised pattern of assistance by KVIC. Up

to March 2000 loans amounting to Rs 5.34 crore have been sanctioned to 601 beneficiaries.

The other self-employment schemes for rehabilitation of ex-servicemen/widows/dependents are: (a) Allotment of Class V-B Vehicles; (b) Coal Transportation Companies; (c) Tipper Scheme for widows; (d) Allotment of Oil Product Agencies; (e) Price subsidy for ex-servicemen manufacturing, supplying items to Defence Organisation/CSD; (f) Allotment of Typewriters & Duplicators; and (g) Allotment of Mother Dairy Milk/DMS Milk Booths and Fruit & Vegetable Booths.

WELFARE

The Kendriya Sainik Board (KSB) under the Chairmanship of the Defence Minister has been established for laying down the general policies of the welfare of ex-Servicemen (ESM) and their dependants; for the administration of Welfare funds and also for co-ordinating the work of the Rajya Sainik Boards(RSBs) and Zila Sainik Boards(ZSBs). The expenditure on the resettlement work in the states is shared by the Central and the State Governments in the ratio of 50:50. The KSB also administers Armed Forces Flag Day Fund. Various welfare activities are financed from interest earnings of the Fund. The fund has a corpus of Rs 60.63 crore as on date. Financial assistance is provided to institutions such as Paraplegic Homes of Kirkee and Mohali, The Red Cross Society, Cheshire Homes, Military Hospitals, St. Dunstan's After Care Organisation and Homes for taking care of old and physically handicapped ex-servicemen and their dependants. Financial assistance is also provided to individual ex-servicemen and their families to meet specific needs.

Following concessions/facilities are provided to ex-servicemen/dependents through Kendriya Sainik Board :

Education : (a) 28 seats in the MBBS, one seat in BDS and two seats in Engineering Course (Annamalai University) are available through KSB to dependants/wards of certain categories of Defence personnel; and (b) Education grant of Rs 600 p.m. per student is provided to wards of war bereaved, disabled and Rs 300 p.m. in case of wards of attributable peace time casualties, housed in 35 War Memorial Hostels to enable them to pursue their studies.

Medical Facilities : (a) Ex-Servicemen suffering from certain specified serious diseases are given financial assistance of up to 60 per cent (80 per cent in case of PBORs) of the total expenditure for treatment in civil hospital in case they cannot raise funds from other sources; (b) The leading hospitals throughout the country have been empanelled from where the ex-servicemen can get treatment for serious diseases on payment of 40 per cent (20 per cent in case of PBORs) of the total expenditure. The remaining amount is paid directly by the KSB; and (c) The Government has sanctioned a paid medical allowance of Rs 100 p.m. to those ex-servicemen who reside in areas where

facilities of Armed Forces Hospitals/Clinics are not available.

Travel Concession : (a) 75 per cent concessions in rail fare for travel in II Class and 50 per cent concession in IA is available to war widows including those of IPKF and Op Vijay (Kargil Conflict) casualties; and (b) Free Rail travel in I Class/II AC Class to the recipients of *Chakra* series of gallantry awards and 50 per cent concession by IA on domestic flights to the recipients of *Chakra* and war widows post independence era.

RAKSHA MANTRI'S DISCRETIONARY FUND GRANT

The following assistance is provided from *Raksha Mantri's* Discretionary Fund (RMDF) to ex-servicemen and widows of ex-servicemen in penury: (i) Monthly assistance to old infirm ex-servicemen (ESM)/widows for two years - Rs 1,000; (ii) Marriage of daughter of ESM/widows in penury - Rs 8,000; (iii) Repair of house for ESM/widows in penury - Rs 10,000; (iv) Medical treatment - maximum of Rs 15,000 and (v) Education of children of ESM/widows in penury (maximum of three children up to class XII) - Rs 100 p.m.

ARMED FORCES FLAG DAY FUND

Before April 1993 there were four separate funds, namely, (i) Amalgamated Special Fund for War-Bereaved, War-Disabled and other ex-servicemen/serving personnel; (ii) Flag Day Fund; (iii) St. Dunstan's (India) and KSB Fund; and (iv) Indian Gorkha ex-servicemen's Welfare Fund. These separate funds have been merged into an Armed Forces Flag Day Fund. Welfare schemes as enumerated under the sub-heading 'Welfare' are funded from the Armed Forces Flag Day Fund administered by the Kendriya Sainik Board.

5 Education

BEFORE 1976, education was the exclusive responsibility of states. The Central Government was only concerned with certain areas like co-ordination and determination of standards in technical and higher education, etc. In 1976, through a Constitutional amendment, education became a joint responsibility. Decisions regarding the organisation and structure of education are largely the concern of the states. However, the Union government has a clear responsibility regarding the quality and character of education. In addition to policy formulation, the Ministry of Human Resource Development, Department of Education shares with the states the responsibility for educational planning.

The Central Advisory Board of Education (CABE), set up during the pre-independence period in 1935, continues to play a lead role in the evolution and monitoring of educational policies and programmes, the most notable of which are the National Policy on Education (NPE), 1986, Programme of Action (POA), 1986 and a revised NPE and POA (1992).

EXPENDITURE

The National Policy on Education, 1986 and the Programme of Action (POA) 1992 envisage free and compulsory education of satisfactory quality for all children up to the age of 14 years before the commencement of the 21st century. As per the commitment of the Government, about six per cent of the Gross Domestic Product (GDP) would be earmarked for Education sector by the year 2000 AD and 50 per cent of the outlay will be spent on Primary Education.

With the commitment of augmenting resources for education, the allocation for education has, over the years, increased significantly. Plan outlay on education increased from Rs 153 crore in the First Five Year Plan to Rs 19,600 crore in the Eighth Five Year Plan (1992-97). The expenditure on Education as a percentage of GDP also rose from 0.7 per cent in 1951-52 to 3.6 per cent in 1997-98 (BE).

The Ninth Five Year Plan is higher than the Eighth Plan outlay by 2.7 times. The outlay for Education Sector for Ninth Plan under Central Sector is Rs 20,381.64 crore (against Rs 7,443 crore for Eighth Plan). It excludes the sum of Rs 4,526.74 crore for Nutritional Support to Primary Education (Mid Day Meals) for the last three years of the Ninth Plan. The Central Plan outlay for education has been substantially increased from Rs 1,825 crore in 1995-96 to Rs 4,700 crore in 1999-2000 and to Rs 5,450 crore in 2000-2001 in which Rs 3,728.75 crore is for Department of Elementary Education and Literacy and Rs 1,721.25 crore for Department of Secondary Education and Higher Education.

ELEMENTARY EDUCATION IN INDIA

PROGRESS OF ENROLMENT

LAKH PERSONS



KBK

■ Middle Level (Class VI-VIII) Age 11-14 years

■ Primary Level (Class I-V) Age 6-11 years

The outlay on elementary education is 66.22 per cent of the total Central Sector Plan outlay in 2000-2001. Further the outlay consists of Rs 600 crore for Secondary Education, Rs 501.85 crore for University and Higher Education, Rs 120 crore for Adult Education and Rs 500 crore for Technical Education. Plan expenditure on different sectors of education is given in table 5.1

ELEMENTARY EDUCATION

Universalisation of Elementary Education (UEE) has been accepted as a national goal. The National Policy on Education 1986, as revised in 1992, states that free and compulsory education of satisfactory quality should be provided to all children up to the age of 14 years, before the commencement of 21st century. The Ninth Five Year Plan envisages UEE to mean universal access, universal retention and universal achievement. As a result of the efforts made by the Central and State governments, 94 per cent of country's rural population has primary schools within one km. At the upper primary stage 84 per cent of the rural population have schools within a distance of three km. Enrolment ratio at primary stage has gone up from 42.60 per cent in 1950-51 to 92.14 per cent in 1998-99, number of primary and upper primary schools has gone up from 2.23 lakh in 1950-51 to 8.17 lakh in 1998-99 and number of teachers in primary and upper primary schools has also gone up from 6.24 lakh in 1950-51 to 31.80 lakh in 1998-99.

The Central and State governments have over a period of time evolved strategies to check drop-out rates and improve levels of achievements in the schools, the key elements of which include: (i) creating parental awareness and community mobilisation; (ii) involvement of communities and PRIs (73rd and 74th Constitutional Amendments), (iii) economic incentives; (iv) improvement in the infra-structural facilities in schools, (v) District Primary Education Programme initiative, (vi) National Programme of Nutritional Support to Primary Education (Mid-day Meals Scheme), (vii) Non-Formal Education (NFE Scheme) and (viii) Teacher Education Schemes.

The Constitution (Eighty-third Amendment) Bill, 1997 was introduced in the *Rajya Sabha* on 28 July 1997 to make right to free and compulsory education for children from 6-14 years of age a Fundamental Right. The Parliamentary Standing Committee on HRD proposed some modifications in the Amendment Bill. Accordingly a revised Draft Constitution Amendment Bill is under consideration of the Government.

Based on the recommendations of the National Committee of State Education Ministers, a new Scheme *Sarva Shiksha Abhiyan* (SSA) has been evolved to pursue universal elementary education in a mission mode. The goals of SSA are that all 6-14 age children (i) are in school/ECIS centre/bridge course by 2003; (ii) complete five year primary education by 2007 and (iii) complete eight years of schooling by 2010.

The media publicity and advocacy plan is being launched for universalisation of elementary education as a part of *Sarva Shiksha Abhiyan*.

TABLE 5.1 : PLAN EXPENDITURE ON DIFFERENT SECTORS OF EDUCATION

Sector	First Plan Expend. 1951-56	Second Plan Expend. 1956-61	Third Plan Expend. 1961-66	Plan Holiday Expend. 1966-69	Fourth Plan Expend. 1969-74	Fifth Plan Expend. 1974-79	Sixth Plan Expend. 1980-85	Seventh Plan Expend. 1985-90	1990-92 Expend.	Eighth Plan Outlay 1992-97	Ninth Plan Outlay (1997-2002) (Central Sector)
Elementary Education	56 (850)	35 (950)	34 (2010)	24 (750)	30 (2390)	35 (3170)	33 (8360)	37 (28490)	37 (17290)	47 (92010)	58 (118428) ¹
Secondary Education	13 (200)	19 (510)	18 (1030)	16 (530)	18 (1400)	17 (1560)	21 (5300)	24 (18320)	22 (10530)	18 (34980)	13 (26035)
Adult Education							9 (2240)	6 (4700)	9 (4160)	9 (18480)	3 (6304)
Higher Education	9 (140)	18 (480)	15 (870)	24 (770)	25 (1950)	22 (2050)	22 (5590)	16 (12010)	12 (5880)	8 (15160)	12 (25000)
Others	9 (140)	10 (300)	12 (730)	11 (370)	14 (1060)	14 (1060)	4 (1080)	3 (1980)	2 (1180)	4 (7510)	2 (4314)
Technical Education	13 (200)	18 (490)	21 (1250)	25 (810)	13 (1060)	12 (1070)	11 (2730)	14 (10830)	17 (8230)	14 (27860)	12 (23735)
Total	100 (1530)	100 (2730)	100 (5890)	100 (3230)	100 (7860)	100 (9120)	100 (25300)	100 (76330)	100 (47270)	100 (196000)	100 (203816) ¹

Note : Figures in parenthesis in millions of rupees.

¹ Excludes the sum of Rs 4,526.74 crore for Nutritional support to Primary Education (Mid Day Meals) for the last three years of the Plan

Source : Dr R.V. Vaidyanatha Ayyar. Educational Planning and Administration in India : Retrospect and Prospect, Journal of Educational Planning and Administration, Vol. VII, Number 2, NIEPA, New Delhi.

It will focus on the right of every child to elementary education. Besides radio and television, the media campaign would use traditional and folk forms of communication. The print media would also be fully used to promote education for all.

NON FORMAL EDUCATION

The Government of India, Department of Education has been running, since 1979-80, a programme of Non-Formal Education (NFE) for children of 6-14 age-group who remain outside the formal system due to various reasons. These include drop-outs of the formal schools, children from habitations without schools, working children, children who assist in performing domestic chores like fetching fuel, fodder, water, attending to siblings, grazing cattle, etc., and girls who are unable to attend formal schools. Though the focus of the scheme is on ten educationally backward States, it also covers urban slums, hilly, tribal and desert areas. The programme, at present, is in operation in 25 States/UTs. Under the scheme assistance is given to States/UTs in the ratio of 60:40 and 90:10 for running co-educational and girls centres respectively. Cent per cent assistance is given to voluntary agencies for running NFE centres and undertaking experimental and innovative projects. Currently 2.97 lakh NFE centres have been sanctioned catering to about 74.25 lakh children. Of the total number of centres about 1.17 lakh centres are exclusively for girls. About 58,788 centres are being run by 816 voluntary agencies.

The scheme of NFE has been evaluated by the Planning Commission, based on which the scheme is under revision with a new nomenclature as the Education Guarantee Scheme & Alternative and Innovative Education (EGS&AIE). The revised scheme will be a part of the overall national programme framework for Universalisation of Elementary Education (UEE), the *Sarva Shiksha Abhiyan*. The pattern of Central assistance in the revised scheme is proposed to be uniform in the ratio of 75:25 by the Centre and State governments.

DISTRICT PRIMARY EDUCATION PROGRAMME

The District Primary Education Programme (DPEP) was launched in 1994 as a major initiative to achieve the objective of Universalisation of Primary Education (UPE). The programme takes a holistic view of primary education development and seeks to operationalise the strategy of UPE through district specific planning with emphasis on decentralised management, participatory processes, empowerment and capacity building at all levels. The programme is implemented through the State level registered societies.

The programme aims at providing access to primary education for all children, reducing primary drop-out rates to less than 10 per cent, increasing learning achievement of primary school students by 25 per cent, and reducing the gender and social gap to less than five per cent.

The programme is structured to provide additional inputs over and above the Central/State sector schemes for elementary education. The

programme fills in the existing gaps in the development of primary education and seeks to revitalise the existing system. DPEP is contextual and has a marked gender focus. The programme components include construction of classrooms and new schools, opening of non-formal/alternative schooling centres, appointment of new teachers, setting up Early Childhood Education Centres (ECCE), strengthening of State Councils of Educational Research and Training (SCERTs)/District Institutes of Educational Training (DIETs), setting up of Block Resource Centres/Cluster Resource Centres, teacher training, development of teaching learning material, research based interventions, special interventions for girls' education, SC/ST, etc. A new initiative of providing integrated education to disabled children and distance education for teachers' training has also been incorporated in the DPEP scheme.

The district is the unit of programme implementation and selected on the basis of twin criteria, viz., (a) educationally backward districts with female literacy below the national average and (b) districts where Total Literacy Campaigns (TLCs) have been successful, leading to enhanced demand for elementary education. DPEP is a Centrally-sponsored scheme. Eighty five per cent of the project cost is shared by Government of India (GOI) and 15 per cent by the concerned State government. Both the Central share and State share are passed on to State Implementation Societies directly as grant. The GOI share is resourced by external funding. Several bilateral and multilateral agencies are providing financial assistance for the DPEP.

The programme which was initially launched in 42 districts of seven states in 1994, is now covering a total of 219 districts in 15 states, namely Assam, Haryana, Karnataka, Kerala, Maharashtra, Tamil Nadu, Madhya Pradesh, Gujarat, Himachal Pradesh, Orissa, Andhra Pradesh, West Bengal, Uttar Pradesh, Rajasthan and Bihar. Expansion of DPEP in nine districts of Rajasthan, eight districts of Orissa and six districts of Gujarat is in the pipeline.

OPERATION BLACKBOARD

The Operation Blackboard Scheme launched in 1987-88, aims at providing essential facilities (two teachers and teaching learning equipment) in all primary schools in the country in a phased manner. The scheme was expanded during 1993-94 to provide third teacher to primary schools with enrolment exceeding 100 and to cover upper primary schools through provision of additional teachers and teaching learning equipment. The scheme provides 100 per cent Central assistance for teaching learning equipment and for salaries of teachers during the Plan period. Construction of school buildings is States' responsibility.

During the period 1987-88 to 1999-2000, teaching learning equipment has been sanctioned to all targeted primary and upper primary schools numbering 5,22,902 and 1,27,257 respectively. The post of third teacher has been sanctioned for 83,045 primary schools and of additional teachers for 75,504 upper primary schools. During 2000-2001, 20,000 posts of third teacher in

primary schools and 10,000 posts of additional teachers in upper primary schools are proposed to be sanctioned.

LOK JUMBISH

An innovative project called *Lok Jumbish* (People's movement for Education for All) with assistance from Swedish International Development Authority (SIDA) has been undertaken in Rajasthan. The basic objective of the project is to achieve "Education for All" through people's mobilisation and their participation. During 1997-98 the programme was in operation in 75 blocks. In all 435 clusters were selected; 8,675 villages extensively covered for environment building and community contact; 5,712 women's groups constituted; school mapping activity undertaken in 6,954 villages; 529 primary schools opened; 268 primary school upgraded to upper primary schools and 5,010 *Sahaj Shiksha Kendras* opened under the project. The *Lok Jumbish* project has made a positive contribution to quality improvement through the development of improved Minimum Levels of Learning (MLL)-based textbooks from classes I-IV, which have mainstreamed in all government schools of Rajasthan.

NATIONAL PROGRAMME OF NUTRITIONAL SUPPORT TO PRIMARY EDUCATION

A National Programme of Nutritional Support to Primary Education commonly called the Mid-day Meals Scheme launched on 15 August 1995 is aimed at improving enrolment, attendance and retention while simultaneously impacting on the nutrition status of students in primary classes. The programme envisages provision of cooked meals/processed food for children studying in classes I-V in all government, local body and government-aided primary schools. During 1999-2000, 9.90 crore children studying in 6.88 lakh schools were covered. A sum of Rs 1,090 crore has been allocated during 2000-2001. Central assistance under the programme is available for the reimbursement of cost of foodgrains and for transportation charges for movement of foodgrains from FCI godowns to schools/villages. Salaries of cooks, helpers, etc., as well as expenditure on construction of kitchen sheds needed under the programme are eligible for coverage under the poverty alleviation schemes. Other costs of conversion of foodgrains into cooked meal/processed food are to be met by implementing agencies/states. Foodgrains (wheat/rice) at three kg per child per month, are being distributed where arrangements for provision of hot cooked meal/processed food have not yet been made.

EDUCATION FOR WOMEN'S EQUALITY

The Government of India is committed to bringing about basic change in the status of women through education. It believes that empowerment of women is a critical pre-condition for their participation in the education process. The major schemes/programmes for empowerment of women are as under:

(i) *Mahila Samakhyas*: Started in 1989, the *Mahila Samakhyas* scheme recognises

the centrality of education in empowering women to achieve equality. Presently the scheme is being operated in the 7,335 villages in 51 districts spread over eight States namely, Andhra Pradesh, Assam, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh and Uttar Pradesh; (ii) *Sarva Shiksha Abhiyan*: *Sarva Shiksha Abhiyan* aims at mobilising resources - human, financial and institutional - necessary for achieving the goal of Universalisation of Elementary Education. A National Committee of State Education Ministers has been constituted under the Chairmanship of the Minister of Human Resource Development; (iii) Operation Blackboard: The scheme has three components: (a) provision of at least two classrooms in each primary schools; (b) provision of an additional teacher in single primary schools and (c) provision of essential teaching learning equipment including furniture for teachers; (iv) Non-formal Education: At present there are 2.97 lakh NFE centres covering about 74.20 lakh children in 24 States/UTs. 1.18 lakh centres exclusively meant for girls receive Central assistance up to 90 per cent; (v) District Primary Education Programme: The programme aims at providing access to primary education for all children with special interventions for the education of girls, reducing primary drop out rates, increasing educational attainment of primary school students and reducing the gap among gender and social groups to less than 5 per cent; and (vi) National Literacy Mission: The programmes of National Literacy Mission aim at imparting functional literacy to threshold, sustainable level of 75 per cent by the year 2005. This campaign model is accepted as the dominant strategy for reduction of illiteracy in India; (vii) *Navodaya Vidyalaya*: The *Navodaya Vidyalaya* (NV) Scheme has a three-fold objective of providing good quality modern education to children in rural areas, ensuring attainment of 3-language formula by all students and to serve in each district as focal points for improvement in the quality of school education. These *Vidyalayas* are fully residential, co-educational institutions, providing education up to the Senior Secondary stage. Education in NVs include free boarding and lodging, textbooks, uniforms, etc., for all students; (viii) Vocational Education: The main objectives of this scheme are to enhance individual employability, reduce mismatch between the demand and supply of skilled manpower and provide an alternative for higher education; (ix) Boarding and Hostel Facilities for girl students: Under the scheme, financial assistance is given to eligible voluntary organisations to improve the enrolment of adolescent girls belonging to rural areas and weaker sections. The University Grants Commission (UGC) has been encouraging institutions to take up research projects in the area of women study by providing necessary financial assistance. 22 universities and 11 colleges have been assisted by the Commission to set up women's study centres. The UGC also provides assistance *inter alia* for removal of social disparities and regional imbalances in higher education facilities.

TEACHER EDUCATION

As envisaged in National Policy on Education (NPE) and Programme of Action (POA)-1986, the Centrally-sponsored scheme of Restructuring and

Reorganisation of Teacher Education was taken up in 1987-88 to create a viable institutional infrastructure, academic and technical resource base for orientation, training and continuous upgradation of knowledge, competence and pedagogical skills of school teachers, Adult and Non-formal functionaries and teacher educators in the country. The Scheme envisaged setting up of District Institutes of Education and Training (DIETs) in each district to provide academic and resource support to elementary education teachers and Non-Formal Education (NFE)/Adult Education (AE) instructors. It also envisaged upgradation of selected Secondary Teacher Education Institutions (STETs) into Colleges of Teacher Education (CTEs) and Institutes of Advanced Studies in Education (IASEs) to organise pre-service and in-service training for secondary teachers and to provide extension and resource support services to secondary schools. IASEs were expected to conduct programmes for preparation of elementary teacher educators; to conduct in-service training for elementary and secondary teacher educators and principals of secondary schools; to engage in advanced level fundamental and applied research especially of inter-disciplinary nature, and to provide academic guidelines to DIETs and support services to CTEs. 451 DIETs, 76 CTEs and 34 IASEs have been sanctioned in various States/UTs up to 31 March 1999. Financial assistance has also been extended for strengthening of 20 State Councils of Educational Research and Training (SCERTs). More than 12 lakh teachers have been given orientation training under Special Orientation Programme for School Teachers (SOPT) in the use of Operation Blackboard (OB) material and implementation of Minimum Levels of Learning (MLL) strategy with focus on teaching of language, mathematics and environmental studies.

NATIONAL COUNCIL FOR TEACHER EDUCATION

National Council for Teacher Education (NCTE) has been established as a national level statutory body by the Government of India in 1995 with the objectives of achieving planned and co-ordinated development of teacher education system, regulation and proper maintenance of norms and standards of teacher education and for matters connected therewith. As per the statutory provisions, four Regional Committees for the northern, southern, eastern and western regions have been set up at Jaipur, Bangalore, Bhubaneswar and Bhopal respectively. These Regional Committees consider the applications of institutions of teacher education for recognition/permission in accordance with the provision of the Act.

SECONDARY EDUCATION

Secondary Education serves as a bridge between the Elementary and Higher Education to prepare young persons of the age group 14-18 for entry into higher education. In 1966 Kothari Commission gave considerable attention to School Education. The system of education was further reviewed and based on the suggestions, a new National Policy on Education (NPE) was drafted in 1986 and revised in 1992. The relevant children population at the Secondary and Senior Secondary level as projected in 1996-97 by NSSO has been

estimated as 9.66 crore. Against this population, the enrolment figures of 1997-98 show that only 2.72 crore are attending schools. Thus, two-thirds of the eligible population remains out of secondary school system.

The achievements made so far in the Secondary Sector during the past 50 years indicate that: Secondary and Senior Secondary level institutions increased from 7,416 in 1951 to 1.10 lakh by 1999; enrolment has increased from 15 lakh in 1951 to 272 lakh; girls' enrolment increased from a mere two lakh in 1951 to 101 lakh by 1999; number of teachers increased from 1.27 lakh in 1951 to 15.42 lakh; six autonomous institutions including CBSE, NCERT and NOS were established and ten Centrally-sponsored schemes have been made operational; and 10+2 system has been introduced in most States providing for ten years of general and two years of specialised education.

VOCATIONAL EDUCATION

The Centrally-sponsored scheme of vocationalisation of secondary education is being implemented since 1998 and revised programme is in operation from 1993. The Planning Commission categorised this scheme for transfer to the States alongwith other Centrally-sponsored schemes. However, a concrete decision has not emerged so far. Due to this reason in the initial stage of the Ninth Plan, the pace of implementation was slow. In August 1999 it was decided to revitalise the scheme and accordingly the States were advised to send expansion proposals. Consequently the implementation of the scheme got a fillip and many states have taken steps for strengthening and expansion of the scheme. States like Kerala, Madhya Pradesh, Haryana, Assam and Uttar Pradesh have ventured into a big expansion to cover more number of schools and introducing demand driven courses.

The collaborative project to offer fashion and garment manufacturing courses with the resource support of National Institute of Fashion Technology (NIFT) have been operationalised in the three Government schools located at Indore, Visakhapatnam and Ludhiana. A similar collaborative project with FICCI to offer vocational courses in CBSE affiliated schools is in the stage of finalisation.

INTEGRATED EDUCATION FOR DISABLED CHILDREN

The scheme of Integrated Education for Disabled Children (IEDC) was started with the objective of providing educational opportunities to children with disabilities under the general school system so as to facilitate their inclusion. Under the scheme, hundred per cent financial assistance is provided to the states and NGOs Assistance is also provided for setting up resource centres, surveys and assessment of disabled children with disabilities, purchase and production of instruction materials and training/orientation of teachers.

The IEDC scheme has till recently remained a fringe scheme. However, in the wake of the promulgation of the Persons with Disabilities (equal opportunities, protection of right and full participation) Act, 1995, education of children with disabilities has occupied the centre stage.

The IEDC scheme is being implemented in 27 States and five Union Territories through over 22,000 schools benefiting more than 95,000 disabled children. Two polytechnics for disabled students have been set up at Mysore and Kanpur. The Government proposes to make further efforts to generate awareness in the community about the need to send children with disabilities to regular schools. The financial outlay for the IEDC scheme in the Ninth Plan period is Rs 100 crore. During the first three years of implementation, about Rs 31.69 crore have been spent on the implementation of the scheme. Rs 15 crore is expected to be utilised during 2000-2001.

PROMOTION OF CULTURE AND VALUES IN EDUCATION

Education about India's common cultural heritage has been identified in National Policy on Education as one of the core areas under the national system of education. A Centrally-sponsored scheme of Assistance for strengthening Culture and Values in Education is being implemented for providing assistance to Government agencies, educational institutions, Panchayat Raj institutions, registered societies, public trusts and non-profit making companies. The scheme has two broad components: (i) strengthening cultural and value education inputs in the school and non-formal education system; and (ii) the in-service training of art, craft, music and dance teachers. A total grant of Rs 123 lakh was approved for sanction of organisations during 1999-2000. The budget provision for the current year is kept at Rs five crore.

NATIONAL POPULATION EDUCATION PROJECT

National Population Education Project (School Education) was launched in April 1980 with a view to institutionalise population education in the school education system. This project is executed by the Ministry of Human Resource Development, monitored by the Ministry of Health and Family Welfare and implemented by the National Council of Educational Research and Training. This project is being implemented in 29 States/UTs throughout the country. It is also being implemented in the Higher and Adult Education sector. Three cycles of the project that have been completed so far have laid stress on: (i) integrate population education in the syllabi and textbooks; (ii) develop prototype curricular, instructional and training materials for all stages of school education; (iii) conduct teacher training programmes in population education throughout the country; and (iv) incorporation of sustainable development, ageing and other related concerns in the population education elements in textbooks of the NCERT.

The fourth cycle (1999-2000) of the project has started from June 1998 with new nomenclature, i.e., Population and Development Education in Schools. The certain project activities have been sub-contracted to the Autonomous Organisations, i.e., CBSE, NOS, CISCE, NCTE, KVS and NVS.

BOARDING AND HOSTEL FACILITIES FOR GIRL STUDENTS

Under the scheme for strengthening of boarding and hostel facilities for girl students of secondary and higher secondary schools, financial assistance is

being given to the eligible voluntary organisations to improve the enrolment of adolescent girls belonging to rural areas and weaker sections. Preference in providing assistance is given to hostels located in educationally backward districts, particularly those predominantly inhabited by SCs/STs and educationally backward minorities in the secondary and higher secondary schools. The following types of grant are given under the scheme: (i) Rs 5,000 per annum per girl boarder for food and salary of cook and warden if the hostel/boarding house accommodates at least 25 girl boarders who are students of classes IX-XII of recognised schools would get assistance under this scheme subject to an overall number of 50 boarders; (ii) A one-time grant at the rate of Rs 1,500 per girl boarder for purchase of furniture (including beds) and utensils and provision of basic recreational aids, particularly material for sports and games, reading room equipment and books; and (iii) Assistance for constructions of hostels after the revised scheme is approved.

COMPUTER LITERACY AND STUDIES IN SCHOOLS

A pilot project on Computer Literacy and Studies in Schools (CLASS) was initiated in 1984-85 in collaboration with Department of Electronics. The broad objectives of the pilot project included demystification of computer and to provide 'hands-on' experience. The project had been continued up to 1992-93. CLASS project became a Centrally-sponsored scheme from 1993-94. During the Eighth Five Year Plan additional 2,371 schools were covered. The scheme is no longer in operation since 1 April 1999. The Department has taken an initiative to formulate a revised scheme in place of the erstwhile CLASS scheme.

ENVIRONMENTAL ORIENTATION TO SCHOOL EDUCATION

The National Policy on Education (NPE) 1986, provides that the protection of environment is a value which along with certain other values, must form an integral part of curricula at all stages of education. To operationalise this noble objective the mind and intellect of the students must be sensitised to the hazards inherent in nature upsetting the ecological balance in nature. This step inculcates awareness and respect among the students for the basic concepts relating to conservation of the environment.

To this end, a Centrally-sponsored scheme, Environmental Orientation to School Education was initiated in 1988-89. The Scheme envisages assistance to voluntary agencies for conduct of experimental and innovative programmes aimed at promoting integration of educational programme in schools with local environmental conditions. The States/UTs are assisted for various activities including review development of curricula of different disciplines at primary, upper primary, secondary and senior secondary levels with a view to infusing environmental concepts therein.

SCIENCE EDUCATION IN SCHOOLS

To improve the quality of science education and promote scientific temper, as envisaged in the National Policy on Education, 1986, a Centrally-sponsored

scheme, "Improvement of Science Education in Schools" was initiated during 1987-88. Under the Scheme, financial assistance is provided to States/UTs and voluntary agencies. While voluntary agencies are provided assistance for conducting experimental and innovative programmes, States/UTs are assisted for provision of science kits to upper primary schools; upgradation and strengthening of science laboratories in secondary/senior secondary schools, supply of books on science related subjects in secondary and senior secondary schools; and training of science and mathematics teachers.

One of the important components of this scheme is participation of Indian students at school level in the International Science Olympiads, viz., International Mathematical Olympiad (since 1989), International Physics Olympiad (since 1998) and International Chemistry Olympiad (since 1999). During 2000, Indian team will participate in the International Biology Olympiad.

NATIONAL OPEN SCHOOL

The National Open School (NOS) established as an autonomous registered society under the Ministry of Human Resource Development in November 1989 is vested with the authority to examine and certify students registered with it, up to pre-degree level courses. NOS provides opportunities for continuing education to interested learners through its foundation, secondary and senior secondary courses. To make the courses meaningful, vocational courses are offered independently or in combination with academic subjects at the secondary and senior secondary levels. Flexibility, learning at one's own pace and open choice are the key concepts in the NOS. NOS offers and proposes to offer a number of Life Enrichment Courses addressed to teachers, principals as well as the general public and private sector enterprises. NOS has launched the Open Basic Education Project for out of school children in the 6-14 age group and adult learners. This will have three levels: preparatory, primary and elementary, which are equivalent to formal school standards of III, V and VIII. In addition, NOS helps the NGOs in the area of elementary education by providing materials, standardisation and certification at primary and upper primary levels. The school drop-outs and marginalised groups such as rural youth, girls and women, scheduled castes and scheduled tribes, handicapped and ex-servicemen are priorities for NOS.

Programmes offered by NOS through the distance education mode comprise the following elements: (i) Printed Self-learning Material: These materials are prepared by the academic staff of NOS well-illustrated and well produced; (ii) Personal Contact Programmes (PCPs): Under PCPs, classes and tutorials are held and counselling is given through selected recognised schools and institutions referred to as Accredited Institutions or Study Centres spread all over the country. Practicals are also held here; and (iii) Audio and Video Programmes: These programmes are made available to study centres so that students can view them or use them during PCPs. Individual student can have these on nominal payment also.

The NOS serves its clients through a network of more than 1,000 study centres known as AIs spread all over the country and abroad. These AIs provide individualised support to its learners to facilitate the learning process. In order to extend educational facilities to non-resident Indians and other nationals, NOS has accredited centres in the Middle-East (Dubai, Abu Dhabi, Muscat and Kuwait), Nepal (Kathmandu and Bhutwal) and Canada (Vancouver). NOS is a National Board of Secondary and Senior Secondary and Vocational Examinations similar to India's Central Board of Secondary Education (CBSE) and the Council for the Indian School Certificate Examination (CISCE). NOS conducts examinations twice a year during May and November. The National Open School was conferred the Commonwealth of Learning Award of Excellence for Institutional Achievement in Distance Education at the "Pan Commonwealth Forum on Open Learning" in March 1999 at Brunei Darussalam.

NAVODAYA VIDYALAYA

The National Policy on Education - 1986 envisaged setting up of model schools one in each district of the country. Accordingly, a scheme was formulated under which it was decided to set up residential schools, called *Navodaya Vidyalayas*, on an average one in each district. *Navodaya Vidyalayas* are fully residential co-educational institutions providing education up to senior secondary stage. The scheme started with two experimental schools in 1985-86 and has now grown to 423 schools covering as many districts in 30 States/UTs with over 1.27 lakh students on rolls. About 25,000 new students are admitted every year. The *Vidyalayas* envisaged a new style of growth with identification and development of talented, bright and gifted children predominantly from rural areas who may otherwise be denied good educational opportunities. Efforts are made to ensure that at least 33 per cent of the students enrolled are girls. Migration is a unique feature of *Navodaya Vidyalaya* Scheme whereby 30 per cent of students in Class IX from a *Vidyalaya* located in one linguistic area (Hindi speaking to non-Hindi speaking and vice-versa) spend one academic year in a *Vidyalaya* in a different linguistic region to promote national integration through understanding of the diversity and plurality of country's cultures and people.

KENDRIYA VIDYALAYA

The Government of India approved the scheme of *Kendriya Vidyalaya Sangathan* in 1962 on the recommendations of the Second Pay Commission. Initially, 20 regimental schools in different States were taken over as Central Schools. In 1965, an Autonomous Body called *Kendriya Vidyalaya Sangathan* was established with the primary objective of setting up and monitoring *Kendriya Vidyalayas* to cater to the educational needs of the children of the transferable Central Government Employees including Defence Personnel by providing common programme of education. At present there are 874 *Kendriya Vidyalayas* out of which one each is in Kathmandu and Moscow. All *Kendriya Vidyalayas* follow a uniform syllabus.

NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

The National Council of Educational Research and Training (NCERT) which was set up in 1981 functions as an academic adviser to the Ministry of Human Resource Development, Government of India. The main objectives of the NCERT are to assist and advise the Ministry in implementing policies and major programmes in the field of school education. In the formulation and implementation of policies and programmes as well, the Ministry draws upon the expertise of the NCERT to a considerable extent. The Council is fully financed by the Government of India.

NCERT has regional institutes and field offices in major States all over the country. The Council conducts, aids, promotes and coordinates research in school education and teacher education; organises pre-service and in-service training of teachers; extension services for institutions, develops and experiments with improved educational techniques, practices and innovations; collects, compiles, processes and disseminates educational information; assists the State/UT in developing and implementing programmes for qualitative improvement of school education; collaborates with international organisations; serves as the academic secretariat of the National Development Group (NDG) for the Asia and the Pacific Programme of Educational Innovation for Development (APFID), UNESCO, Bangkok; and develops, prints and distributes textbooks. In September 2000, a Resource Centre for value education was created at the National Council of Educational Research and Training. The Centre has been entrusted with the task of drawing up a framework on value education in schools, analysis and review of existing textbooks, study of existing programmes on value education, preparation of supplementary reading material for children and development of activities to promote national integration and cultural harmony.

NATIONAL TALENT SEARCH SCHEME

The National Council of Educational Research and Training started National Science Talent Search Scheme in 1963 as a pilot project for Union Territory of Delhi and extended it throughout the country during 1964 with total number of 350 scholarships. The scheme underwent various changes in the last three decades and renamed as 'National Talent Search Scheme with effect from 1977. The scheme in brief is as follows: To identify brilliant students at Class X, the Council awards 1,000 scholarships (775 for General category, 150 for Scheduled Caste category and 75 for Scheduled Tribe category candidates). The scheme is operated at two stages. First, States/UTs conduct test in their respective States/UTs. Then on the basis of merit and SC/ST quota, recommend given number of candidates (proportional to student population at secondary level). NCERT then conducts National Level Test on second Sunday of May at one centre in each State/UT. Final merit list is prepared on the basis of written and interview marks. The awardees are provided with nurturance programmes in the form of summer school and summer placement programme during their undergraduate and post graduate

stages at Institutes of higher learning like Universities, IITs, National laboratories, Institute of Science, etc., for about 30 days during the summer vacations.

NATIONAL AWARDS TO TEACHERS

These awards were instituted in 1958. Initially, these were given away on convenient dates. From mid-60s, 5 September came to be the date of investiture. Twenty of the awards are reserved exclusively for teachers of Sanskrit, Persian and Arabic teaching in traditional institutions. For general teachers there are two categories; (a) Primary Teachers (Class I to VIII) and (b) Secondary Teachers (Class IX to XII). Each State/UT has an earmarked quota based on teacher population, with the quota for secondary being half that of the primary; for smaller UTs, however, the quota is one each for both the categories. In order to be eligible the teacher should have put in 15 years of continuous service on the date of consideration of his claim by the State Level Selection Committee. For principals and headmasters the eligibility period is 20 years.

Selection is made by State Level Selection Committee presided over by Director (Education) with State Coordinator of NCERT also as a member. The Committee considers recommendations received from districts. Committee's recommendations are forwarded by the State government to the Government of India without the authority to change the order of merit. State government is competent to delete names after recording reasons for such deletion. The Government of India makes final selections strictly in the order of merit on a scrutiny of the bio-data and service record, only ineligible are weeded out.

Each award consists of a certificate of merit, silver medal and a cash prize of Rs 10,000. The awards are conferred each year on 5 September at a function especially held to honour the awardee teachers. An amount of Rs 55 lakh has been budgeted for 2000-2001.

UNIVERSITY AND HIGHER EDUCATION

Higher Education is imparted through 227 universities in the country. Of these, there are 16 Central universities and the remaining are functioning under the State Acts. Total number of colleges in the country is 11,089. There are 40 institutions declared deemed-to-be universities under the University Grants Commission Act, 1956. The enrolment of students is 74.18 lakh while the number of teachers is 3.42 lakh.

UNIVERSITY GRANTS COMMISSION

The University Grants Commission (UGC) was established in 1956 under an Act of Parliament to take measures for promotion and coordination of university education and determination and maintenance of standards in teaching, examination and research in universities. To fulfil its objectives, the Commission can enquire, among other things, into financial needs of the universities; allocate and disburse grants to them; establish and maintain

common services and facilities; recommend measures for improvement of university education and give advice on allocation of grants and establishment of new universities.

AUTONOMOUS RESEARCH ORGANISATIONS

Indian Council of Historical Research (ICHR), New Delhi, set up in 1972 reviews the progress of historical research and encourages scientific writing of history. It operates research projects, finances research projects by individual scholars, awards fellowships and undertakes publication and translation work.

Indian Council of Philosophical Research (ICPR), functioning from 1981 with offices in New Delhi and Lucknow, reviews the progress, sponsors or assists projects and programmes of research in philosophy, gives financial assistance to institutions and individuals to conduct research in philosophy and allied disciplines.

Indian Institute of Advanced Study (IIAS), Shimla set up in 1965 is a residential centre for advanced research on humanities, social sciences and natural sciences. It is a community of scholars engaged in exploring new frontiers of knowledge aimed at conceptual development and offering interdisciplinary perspectives on questions of contemporary relevance.

Indian Council of Social Science Research (ICSSR), New Delhi, is an autonomous body for promoting and coordinating social science research. Its main functions are to review the progress of social science research, give advice on research activities in government or outside, sponsor research programmes and give grants to institutions and individuals for research in social sciences.

NATIONAL COUNCIL OF RURAL INSTITUTES

The National Council of Rural Institutes was set up on 19 October 1995 as an autonomous organisation fully funded by the Central government to promote rural higher education on the lines of Mahatma Gandhi's revolutionary ideas on education, consolidate network and develop educational institutions and voluntary agencies in accordance with Gandhian philosophy of education and promote research as a tool for social and rural development.

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

Indira Gandhi National Open University (IGNOU) established by an Act of Parliament in September 1985 is responsible for the introduction and promotion of open university and distance education system in the educational pattern of the country and for the coordination and determination of standards in such systems. The major objectives of the university include widening access to higher education to larger segments of the population, organising programmes of continuing education and initiating special programmes of higher education for specific target groups like women, people living in backward regions, hilly areas, etc.

The IGNOU provides an innovative system of university level education, flexible and open in regard to methods and pace of learning, combination of courses, eligibility for enrolment, age of entry, methods of evaluation, etc. The University has adopted an integrated multimedia instructional strategy consisting of printed materials and audio-video aids, supported by counselling sessions at a network of study centres throughout the country. It conducts both continuous evaluation as well as term-end examinations.

The IGNOU introduced its programmes in 1987 and has so far launched 50 programmes consisting of 604 courses. During 2000 over 1.96 lakh students have been registered for various programmes of study. The University has established an extensive student support services network consisting of 26 regional centres and 504 study centres situated in different parts of the country. A Distance Education Council (DEC) established by the University as a statutory authority is an apex body for coordination and determination of standards in distance education. Doordarshan commenced telecast of IGNOU's programmes in May 1991 while the Mumbai and Hyderabad stations of All India Radio started broadcasting selected audio programmes of the IGNOU from early 1992. On 26 January 2000 IGNOU launched an educational channel *Gyandarshan*.

At present there are nine other open universities in the country, viz., B.R. Ambedkar Open University, Hyderabad (Andhra Pradesh), Kota Open University, Kota (Rajasthan), Nalanda Open University (Bihar), Yashwant Rao Chavan Maharashtra Open University, Nashik (Maharashtra), Madhya Pradesh Bhoj Open University, Bhopal (Madhya Pradesh), Ambedkar Open University, Ahmedabad (Gujarat), Karnataka State Open University, Mysore (Karnataka), Netaji Subhash Open University, Calcutta (West Bengal) and Rajrishi Tandon Open University, Allahabad (Uttar Pradesh).

EDUCATION FOR SC AND ST

The National Policy on Education (NPE) 1986 as updated in 1992 attends to the specific needs of those who have been denied equality, particularly scheduled castes, scheduled tribes and educationally backward minorities. The measures taken for educational development of SCs and STs are: (i) Norms for opening of primary schools have been relaxed in case of ST habitations to have a primary school within one-kilometer walking distance from habitations having a population of 200 persons instead of the general criteria of 300 persons; (ii) Tuition fee for SC and ST students has been abolished in government schools in all states at least up to Upper Primary level. Most of the states have abolished tuition fees for these students up to senior secondary level. These students are also provided incentives like free textbooks, uniforms, stationery, school bags, etc.; (iii) Priority is accorded to areas of concentration of SCs and STs in implementation of all major programmes of the Department like District Primary Education Programme, *Lok Jumbish* and *Shiksha Karmi*, Non-Formal Education and National Programme for Nutritional Support to Primary Education; (iv) Apart from

relaxation in the minimum qualifying cut-off stages for admission, reservation of seats for SCs and STs is provided in institutions of higher education including IITs, Regional Engineering Colleges and Central Universities. The UGC has established SC/ST Cells in 103 universities including Central Universities to ensure proper implementation of the reservation policy and also set up a Standing Committee to review implementation of the reservation policy; (v) To improve academic skills and linguistic proficiency of SC and ST students remedial and special coaching is provided to them. SC/ST students who marginally fail in the entrance examination are provided one-year training and then admitted to the first year of B. Tech course in IITs.; (vi) Out of 43,000 scholarships, 13,000 are provided to SC/ST students under the scheme of National Scholarships at the secondary stage for children from rural areas. Besides, 70 scholarships under the National Talent Search Scheme are exclusively reserved for students belonging to these categories; (vii) Junior Research Fellowship (50), scholarships (25), Research Associateship (20), and Fellowships (50) are awarded by UGC every year exclusively to SC/ST students. The UGC has also reduced the minimum percentage of marks at Master's level for appearing in the National Eligibility Test for appointment as lecturers from 55 per cent to 50 per cent for SC/ST candidates; (viii) The Central Institute of Indian Languages, Mysore, prepares textbooks, primers, grammar books, dictionaries, bilingual text books, etc., to facilitate translation from regional languages into tribal languages. The Institute has worked in 75 tribal and border languages. The NCERT has published ten textbooks in tribal dialects and teaching /learning material in 15 tribal dialects; and (ix) Literacy rate amongst SC/ST women being less than 10 per cent, 146 districts in the country have been identified as low female literacy districts for giving focussed attention by Centre as well as States/UTs in implementation of educational programmes/schemes.

MINORITIES EDUCATION

In pursuance of the revised Programme of Action (POA) 1992, two new Centrally-sponsored schemes, i.e., (i) Scheme of Area Intensive Programme for Educationally Backward Minorities and (ii) Scheme of Financial Assistance for Modernisation of *Madarasa* Education were launched during 1993-94.

The objective of scheme of Area Intensive Programme for Educationally Backward Minorities is to provide basic educational infrastructure and facilities in areas of concentration of educationally backward minorities which do not have adequate provision for elementary and secondary schools. Under the scheme cent per cent assistance is given for : (i) establishment of new primary and upper primary schools, non-formal education centres, wherever necessary; (ii) strengthening of educational infrastructure and physical facilities in the primary and upper primary schools; and (iii) opening of multi-stream residential higher secondary schools for girls belonging to the educationally backward minorities.

The scheme of Financial Assistance for Modernisation of *Madarasa*

Education is being implemented to encourage traditional institutions like *Madarasa* and *Makhtabs* to introduce science, mathematics, social studies, Hindi and English in their curriculum. Under this scheme, cent per cent assistance is given to such institutions for appointment of qualified teachers for teaching the new subjects to be introduced.

EDUCATIONAL DEVELOPMENT OF THE NORTH-EASTERN REGION

New initiatives have been taken for the educational development of North Eastern Region (NER). These include earmarking of 10 per cent of Plan budget for the NER and setting up of a Non-Lapsable Central Pool of Resources in Planning Commission. During 1999-2000, 41 proposals involving an outlay of Rs 330 crore have been approved out of Non-Lapsable Pool in different sectors of Education. The proposals relate to infrastructural development of IIT Guwahati, Tezpur University, Assam University, Tripura University and addition of classrooms in primary/upper primary schools, completion of school buildings, construction of toilets, hostels, computer labs, etc.

TECHNICAL EDUCATION

Technical education is a crucial component of human resource development with great potential for adding value to products and services and contributing to the national economy. Five Year Plans have laid great emphasis on the development of technical education. During the past five decades, there has been a phenomenal expansion of technical education sector in the country. Apart from the Government Sector, private and voluntary organisations were involved in setting up of Technical and Management Institutes in the expansion of the system. From 43 Diploma level Polytechnics with an intake of 3,400 students at the time of independence, the number has grown to 1,215 Polytechnics with the intake of 2.12 lakh students in June 2000. Similarly, the number of Degree level institutions and the corresponding intake figure rose from 38 and 2,940 in 1947 to 778 and 1.86 lakh in 2000. Facilities for doctoral studies in Engineering, Technology and Applied Sciences have also been created in a number of technical institutions.

Apart from the technical institutions set up by the Central and State governments, there are Centre-State joint venture institutions as well as State-aided and private institutions. All such institutions are recognised by the statutory regulatory authority, All India Council for Technical Education (AICTE) set up by the Central government through an Act of Parliament. A number of premier institutes are training persons in different disciplines of Technology and Management. These include six Indian Institutes of Technology (IITs) located at Mumbai, Delhi, Kanpur, Kharagpur, Chennai and Guwahati; six Indian Institutes of Management (IIMs) at Ahmedabad, Calcutta, Bangalore, Lucknow, Indore and Calicut; Indian Institute of Science (IISc), Bangalore; Specialised higher Technical Institutes like School of Planning and Architecture (SPA), New Delhi; Indian School of Mines (ISM), National Institute for Training in Industrial Engineering (NITIE), Mumbai; National Institute for Foundry and Forge Technology (NIFFT), Ranchi; Indian Institute of Information



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Technology and Management (IIITM), Gwalior and Indian Institute of Information Technology (IIIT) Allahabad. In addition, 17 Regional Engineering Colleges (RECs), set up as Centre-State joint sector initiative along with a number of Engineering/Technological faculties of Central/State Universities and State, State-aided and Private Engineering/Technical institutes also contribute in this regard. North-Eastern Regional Institute of Science and Technology (NERIST), Itanagar; and Sant Longowal Institute of Engineering and Technology (SLIET), Sangrur (Punjab), with their flexible academic designs and non-conventional modular courses at Certificate, Diploma and Degree levels in Engineering/Technology/Applied Sciences cater to the technical person-power needs in an integrated manner. A vast network of Diploma level Polytechnics throughout the country contribute to the production of appropriate technical person-power as technicians in different disciplines and emerging areas of technology. There are about 1,215 diploma level polytechnics in India offering three years' Diploma Courses, after 10+ or 10+2, in a large number of conventional disciplines in Engineering/Technology/Pharmacy/Architecture as well as in areas of emerging and sunrise technology. The Polytechnics are basically state-level institutions and about 50 per cent of them are set up through Private initiatives. A number of Polytechnics, conduct Post-Diploma courses and Advanced Diploma courses for continuing education and career upgradation of technicians.

These efforts are supplemented by a number of recognised Professional Engineering Societies like: (i) the Institution of Engineers (India); (ii) the Institution of Chemical Engineering (India); (iii) the Institution of Electronics and Tele-communication Engineers (India); (iv) the Indian Institute of Metals; (v) the Institution of Industrial Engineers (India); (vi) the Institute of Town Planners (India); (vii) the Indian Institute of Architects, etc., who conduct Engineering/Technical Examinations at different levels for working professionals desirous of improving their technical qualifications. All such professional examinations are recognised by the Central government as equivalent to appropriate academic qualifications for appropriate levels. The Board of Assessment for educational qualifications, set up by the Government of India for the recognition of academic and professional qualifications (except those concerning Health and Medical Science), assesses and accords recognition to all such qualifications for employment purposes under the Central government.

ADULT EDUCATION

The National Literacy Mission (NLM), launched in 1988, aims at attaining functional literacy for 100 million persons in the age group of 15-35 (including age-group of 9-14 where Non-formal Education is not in operation) in a time bound manner. The most important development that has taken place under the NLM is the near ascendancy of the campaign mode in the adult education programmes in the country.

Total Literacy Campaign in Ernakulam in 1989 served as a role model

for the entire country and ensured the near ascendancy of the campaign-mode in the adult education. Today Literacy Campaigns, being area-specific, time-bound, volunteer-based, cost-effective and outcome-oriented, are the dominant strategy of the National Literacy Mission for the eradication of illiteracy. In order to ensure that the fragile gains made in the basic literacy phase are not lost and to ensure that the learner makes a smooth transition from guided learning to self-learning the post literacy campaigns are launched after the basic literacy phase is over. Skill upgradation is an important component of post literacy. The adult education programme aims at the creation of a learning society through the Continuing Education Programmes. At the core of this programme are the rural libraries to ingrain the reading habit among the people. The Continuing Education package offers a host of programmes, viz., the equivalency programme, income-generating programme, quality of life improvement programme and individual interest promotion programme.

So far 556 districts have been covered under the literacy campaigns of which 259 have made a transition into the post literacy phase. 85 districts have been covered under Continuing Education Programme. The focus of the National Literacy Mission is now on four major Hindi speaking states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh where the bulk of the illiterate population resides. Approximately 60 per cent of the learners under the adult literacy programme are women, over 22 per cent are SCs and over 13 per cent are STs.

LITERACY RATE

At the advent of independence the literacy rate was 18.33 per cent (male literacy rate was 27.16 per cent and female literacy rate was 8.86 per cent). It was only in 1991 that, the number of literates exceeded the number of illiterates when India crossed the half-way mark, achieving a literacy rate of 52.21 per cent. Male literacy rate was 64.1 per cent and female literacy rate was 39.3 per cent.

As per the 53rd round survey of National Sample Survey Organisation (NSSO), the literacy rate of India had increased to 62 per cent in 1997 from 52.21 per cent in 1991, the male and female literacy rates being 73 per cent and 50 per cent respectively. The literacy rate in 15-35 age-group was 66 per cent with male and female literacy rates at 77 per cent and 54 per cent respectively. The rise in female literacy rate between 1991 and 1997 has been 11 per cent whereas the male literacy rate for the same period has gone up by 9 per cent. In the decade between 1981-1991 too, the female literacy rate had grown faster than the male literacy rate (9.6 per cent as against 7.8 per cent). Thus, the faster rate of growth of literacy among females has not only been maintained but slightly enhanced. The number of non-literates in 1997 has decreased to 294.66 million from 328.88 million in 1991. This is despite the fact that annual rate of population growth of India is little over 1.8 per cent. The NSSO figures show a jump of 10 percentage points between 1991 to 1997, i.e., just within six years. The decadal growth between 51-61, 61-71, 71-81 and 81-91 was 10, 6.1, 9.1 and 8.7 per cent respectively. It shows that

in a matter of just six years the decadal average of all earlier years has been surpassed.

In overall literacy rate, Mizoram holds the top spot in the country with 95 per cent literacy followed by Kerala with 93 per cent in 1997. Among the Southern States, Tamil Nadu continued its inexorable march jumping from 62.66 per cent in 1991 to 70 per cent in 1997.

Rajasthan has shown dramatic improvement pushing forward from 38.55 per cent in 1991 to 55 per cent in 1997; UP from 41.6 per cent to 56 per cent; Bihar from 38.5 per cent to 49 per cent; MP from 44.2 per cent to 56 per cent during the same period. Himachal Pradesh moving from 63.9 per cent to 77 per cent has taken third position in the country. Maharashtra has moved from 64.9 per cent to 74 per cent and Gujarat from 61.3 per cent to 68 per cent.

In the east, Sikkim, West Bengal and Assam have done particularly well. Sikkim has moved from 56.9 per cent to 79 per cent; West Bengal has done remarkably, surging ahead by a differential of 14.3 per cent from 57.7 per cent to 72 per cent. Assam has pushed forward from 52.9 per cent to 75 per cent. Unfortunately, Orissa's performance has been dismal with a growth of only 1.9 per cent.

In the North-Eastern region, Meghalaya has moved from 49.1 per cent to 77 per cent; Nagaland from 61.1 per cent to 84 per cent. Among the UTs, Andaman and Nicobar Islands is now at 97 per cent; Lakshadweep is at 96 per cent and Pondicherry at 90 per cent. In the National Capital Territory of Delhi, the literacy rate has gone up from 75.3 per cent in 1991 to 85 per cent in 1997.

INDIAN NATIONAL COMMISSION FOR CO-OPERATION WITH UNESCO

India has been a member of the United Nations' Educational, Scientific and Cultural Organisation (UNESCO) since 1946. The Government of India, set up an Interim Indian National Commission (INCC) for Cooperation with UNESCO in 1949, which was later put on a permanent footing in 1951. The Commission consists of five Sub-Commissions, namely, Education, Natural Sciences, Social Sciences, Culture and Communication.

The main objective of the Commission is to advise the Government of India in the matters falling in the domain of UNESCO and to play a role in UNESCO's work particularly in the formulation and execution of its programmes. The Minister of Human Resource Development is the President of the Commission and Secretary to the Government of India in the Department of Education is its Secretary-General.

The membership of the Commission is of two categories; (i) individual and (ii) institutional. There are at present about 50 'Individual' and 50 'Institutional' members distributed among its five Sub-Commissions. 'Individual' members are nominated by the President of the Commission in their personal capacity from among eminent educationists, scientists, persons distinguished in the field of social sciences, humanities, culture and

communication. 'Institutional' members comprise the concerned Government Departments, important statutory and autonomous bodies, national professional organisations and national non-governmental bodies concerned with or working for education, natural sciences, social sciences, humanities, culture and communication, which are admitted to the membership of the Commission. Both the 'Individual' and 'Institutional' members hold office for a term of four years, unless the Commission is dissolved or reconstituted by the Government earlier or their term is extended pending reconstitution of the Commission.

The National Commission acts as an advisory, coordinating and liaison agency at the national level in respect of all matters within the competence of UNESCO. It also collaborates with the National Commissions of the Region and with UNESCO's Regional Offices for fostering regional, sub-regional and bilateral co-operation in education, science, culture and information. It also performs executive functions like promotion of UNESCO Coupons Programme, public information activities, coordination of UNESCO Club movement and UNESCO Associated Schools Project in the country, publication of Hindi and Tamil editions of UNESCO's monthly magazine *Courier*, nomination of experts to participate in national, regional and international meetings, workshops, seminars, conferences, etc., convened by or held under the auspices of UNESCO, identification and recommendation of candidates for various vacancies notified by UNESCO; placement of UNESCO Fellows from Member States in various universities, institutions, laboratories in India and undertaking special studies in cooperation with UNESCO.

BOOKS

NATIONAL BOOK TRUST

The National Book Trust (NBT), an autonomous organisation, was established in 1957. The activities of the NBT are: (i) publishing; (ii) promotion of books and reading; (iii) promotion of Indian books abroad; (iv) assistance to authors and publishers; and (v) promotion of children's literature.

It produces books in Hindi, English and other major Indian languages under its various series. Every alternate year NBT organises the World Book Fair which is the largest in Asia and Africa. The next World Book Fair is scheduled to be held in February 2002. The Trust also observes 14 to 20 November every year as National Book Week.

In 1999-2000, NBT organised Book Festivals at Barielly and Shillong, National Book Fair at Bhopal and Chandigarh. 200 *Pustak Parikramas* were organised through its mobile exhibition vans. NBT participated in international book fairs and made arrangements for special display of select titles brought out by Indian publishers in Bologna, Budapest, Sydney, Harare, Frankfurt and Kathmandu.

For the first time the Trust celebrated the World Book and Copyright Day on 23 April 1999 in collaboration with the Federation of Indian Publishers.

EXPORT AND IMPORT POLICY FOR BOOKS

As per the policy announced by the Ministry of Commerce for the period April 1997 to March 2002, any person/organisation is free to import all categories of books including journals, magazines and newspapers under Open General Licence (OGL) including children's literature.

INTERNATIONAL STANDARD BOOK NUMBERING SYSTEM

The International Standard Book Numbering (ISBN) System was introduced in 1985 to help book industry to boost export. The ISBN is an international book numbering system by which a unique number carrying ten digits is assigned to each book published.

The Raja Ram Mohan Roy National Agency for ISBN has been making registrations of Indian publishers and writers and allotting suitable blocks. Since its inception and up to May 2000, 5,228 small and big publishers and authors have been registered by the Agency.

COPYRIGHT

Copyright protection is governed by the Indian Copyright Act, 1957. The Act was comprehensively amended in 1994 taking into account the technological developments. The amended Act including the Rules made thereunder, was brought into force on 10 May 1995. The Act further amended in 1999 came into force on 15 January 2000.

The Copyright Office was established in January 1958 in pursuance of section 9 of the Copyright Act, 1957 to register copyright of works under different categories. As per section 33 of the Copyright Act, the Central government also registers copyright societies for doing copyright business.

Under the provisions of section 11 of the Copyright Act, 1957, the Government of India has reconstituted the Copyright Board with effect from 4 January 1996. The Copyright Board is a quasi-judicial body consisting of a Chairman and 10 other members. The Board hears cases regarding rectification of copyright registration, disputes in respect of assignment of copyright and granting of licences in works withheld from public. The meetings of the Board are held in different zones of the country to provide facility of justice to authors/creators and owners of intellectual property.

India is a member of two major international conventions on copyright, namely, the Berne Convention for the Protection of Literary and Artistic Works administered by the World Intellectual Property Organisation (WIPO) and the Universal Copyright Convention administered by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). India is also a member of both these United Nations' specialised agencies. Copyright and Related Rights now form part of Agreement on Trade Related Aspects of Intellectual Property to which India has acceded.

SCHOLARSHIPS

The Department of Secondary Education and Higher Education funds scholarship/fellowship programmes for Indian students for school and higher education. These programmes are administered through the State Governments/ Union Territories. They include the National Scholarships Scheme for post-matric studies, a scheme of scholarships to help students of non-Hindi speaking states studying Hindi and scholarships to enable talented rural children to continue secondary education.

Scholarships for advanced or specialised studies are offered under the provision of cultural exchange programmes, bilateral agreements, Commonwealth scholarships/fellowship plan and ad-hoc scholarship offers received from different countries. These scholarships are mostly for the Post Graduation, Doctoral and Post-Doctoral studies. During 1999-2000, 73 candidates went to countries like Germany, Ireland, U.K., Japan, China, Canada, Belgium, Mexico, Israel, New Zealand and Czech.

PROMOTION OF LANGUAGES

The Government encourages development of all Indian languages including classical, modern and tribal languages. Its policy lays emphasis on training of teachers with regard to adoption of the three-language formula and production of university-level textbooks in order to facilitate media switch over from English to regional languages.

HINDI

In order to assist non-Hindi speaking States/UTs to effectively implement the three-language formula, support for provision of facilities for teaching of Hindi in these States/UTs is provided by sanctioning financial assistance for appointment of Hindi teachers in schools and for establishment of Hindi teachers training colleges in these States/UTs, under a Centrally-sponsored scheme. Assistance is also given to voluntary organisations for enabling them to hold Hindi teaching classes, conducting research on methodology of its teaching and providing Hindi books to various organisations. Through the *Kendriya Hindi Sansthan*, Agra and its regional centres at Delhi, Mysore, Hyderabad, Guwahati and Shillong, the Government of India promotes development of improved methodology for teaching Hindi to the non-Hindi speaking students. An academic course for teaching Hindi to foreigners is being conducted by the *Sansthan*. Central Hindi Directorate runs programmes relating to purchase and publication of books and their free distribution to non-Hindi speaking states and to the Indian missions. The Directorate also brings out Hindi journals like *Bhasha*, *Varshiki* and *Sahityamala*. It is also implementing a scheme of teaching Hindi through correspondence courses in the media of English, Tamil, Malayalam and Bengali.

The Commission for Scientific and Technical Terminology, New Delhi, prepares and publishes definitional dictionaries and terminology in various disciplines. Hindi-English glossary in basic sciences, humanities, social sciences

and applied science, university-level textbooks in agriculture and engineering and other subjects are also published

MODERN INDIAN LANGUAGES

Financial assistance is given to voluntary organisations and individuals to bring out publications like encyclopaedias, dictionaries, books of knowledge, original writing on linguistic, literary, indological, social, anthropological and cultural themes, critical editions of old manuscripts, etc., for the development of modern Indian languages. Grants are also given for holding/conducting literary conferences, seminars and short-term studies besides purchasing copies of printed publications. States are given special help for the production of university level books in the regional languages. The National Council for Promotion of Urdu Language (NCPUL) has been functioning since April 1996 as an autonomous body for the promotion of Urdu language and also Arabic and Persian languages. The Council has made forays into the minority education field and revived the periodicals discontinued in the past. One of the outstanding areas of operation of NCPUL has been transfer of Information Technology to Urdu language. In collaboration with C-DAC, Pune, NCPUL is working on developing an advance software for Urdu, which will be Internet acceptable. NCPUL has established 54 Computerised Calligraphy Training Centres, where a one year Diploma in Computer Applications and Multilingual DTP (Urdu, Hindi and English) is being imparted.

UNI Urdu services have been made available throughout the country and NCPUL has been monitoring this service and subsidising the service charges to the extent of 50 per cent in favour of daily Urdu newspapers.

The Government has set up National Council for Promotion of Sindhi Language (NCPSL), a fully funded autonomous organisation for the promotion and development of the Sindhi language. The headquarters of the Council is at Vadodara in Gujarat.

It is proposed and approved in principle by the Planning Commission to set up a National Council for Promotion of Kashmiri Language during the current financial year for promotion of Kashmiri Language on the pattern of NCPUL and NCPSL. The Government also provides facilities for study of all Indian languages. For this the Central Institute of Indian Languages (CIIL), Mysore conducts research in the areas of language analysis, language pedagogy, language technology and language use. The Institute runs three schemes: (i) the development of Indian languages including tribal languages, (ii) implementation of three-language formula and (iii) financial assistance for publication in Indian languages (other than Hindi, Urdu, Sindhi, Sanskrit and English) inclusive of tribal languages. It runs regional language centres at Bhubaneswar, Mysore, Patiala, Pune, Solan and Lucknow to help meet the demand for training of teachers to implement the three-language formula and one centre at Guwahati to give training to teachers in Nepali and Manipuri from Academic Session 2000-2001 and do research for

development of tribal languages of the north-eastern region.

Besides, a Centrally Sponsored Scheme "Appointment of Urdu Teachers and Grant of honorarium for teaching Urdu in States/UTs" was launched on 22 April 1999. The scheme is proposed to be implemented in the blocks/districts of the concentration of Educationally Backward Minorities identified by the Ministry of Social Justice and Empowerment.

ENGLISH AND FOREIGN LANGUAGES

The Central Institute of English and Foreign Languages (CIEFL), Hyderabad, a fully funded autonomous organisation, *inter alia*, conducts training programmes for school teachers, develops teaching materials, implements/monitors the scheme of English Language Teaching Institutes and provides financial assistance for publication, purchase of books in the English language and for holding seminars, conferences, workshops, etc., and to bring about substantial improvement in the standards of teaching/learning of English. The National English Language Testing Service (NELTS) developed by the Institute aims at developing a battery of dependable tests in English at different levels for specific academic purposes and will offer consultancy services to public and private-sector organisations. The first test was scheduled to be conducted on 19 November 2000 at various centres across the country.

SANSKRIT AND OTHER CLASSICAL LANGUAGES

There are various schemes for the propagation, popularisation and development of Sanskrit and other classical languages. These include schemes for financial assistance to State governments and voluntary Sanskrit organisations and their development into *Adarsh Sanskrit Mahavidyalayas*, incentives to retired scholars as *Shastri Chudamani Pandits*, publication of original writings of contemporary authors, editing and publication of rare manuscripts and catalogues of manuscripts, reprinting of important out-of-print Sanskrit texts, promotion of oral *Vedic* tradition, vocational training to products of Sanskrit *Pathshalas*, national awards to eminent Sanskrit, Pali/Prakrit, Arabic and Persian scholars and preparation/publication of Sanskrit dictionaries.

Registered voluntary Sanskrit organisations engaged in the development and propagation of Sanskrit are given recurring and non-recurring grants for salary of teachers, scholarship to students, construction and repair of buildings, library books, research projects, etc., up to 75 per cent of the approved expenditure. About 950 voluntary institutions working in the field of propagation and promotion of Arabic and Persian are benefited under this scheme every year. Institutions having potential for greater development are identified and brought under the scheme of *Adarsh Sanskrit Mahavidyalayas* and *Sodh Sansthans*. So far 19 post-graduate Sanskrit *Mahavidyalayas* and two research institutions have been brought under the purview of this scheme. An amount of Rs 300 per month is being provided as scholarship under the voluntary organisation scheme to encourage more students to learn Sanskrit.

The Department of Education conducts an All India Vedic Convention through *Maharishi Sandipani Rashtriya Ved Vidya Pratishthan* where scholars in different *Shakhas* of Vedas from all over India are invited with a view to identifying rare *Veda Shakhas* and their repositories and devising ways and means for preserving the oral traditions. As a special measure to preserve the oral tradition of Vedic studies, a scheme was introduced in 1978 under which each *Swadhyayin* is required to train two students each below 12 years, in a particular *Veda Shakha*. The scholar is provided with an honorarium of Rs 3,000 and the student is paid scholarship of Rs 300 per month. At present 36 such units are functioning. The Department also organises an All India Elocution Contest every year through the *Rashtriya Sanskrit Sansthan* for the students of institutions in the traditional mould to encourage them in extempore speech on various *Shastric* subjects. A team of eight contestants from each State is invited.

Maharishi Sandipani Rashtriya Veda Vidya Pratishthan was set up in 1987 for preserving and developing all aspects of Vedic studies. The *Pratishthan* organises one All India and six Regional Vedic *Sammelans* every year. Seminars and workshops on different topics are also organised. Financial assistance to Vedic institutions, aged Vedic *Pandits* and *Nityagnihotris*, stipends to *Veda* students, fellowships, conducting Vedic classes for the general public, tape recording of Vedic recitation, etc., are the other activities of the *Pratishthan*.

A scheme for awarding Certificate of Honours with a suitable monetary grant to eminent Sanskrit, Arabic and Persian scholars was introduced in 1958. The scheme was extended to cover Pali/Prakrit also in 1996. The distinction is conferred every year on Independence Day. The total number of awards announced are 22 — 15 for Sanskrit, one in Pali/Prakrit and three each for Arabic and Persian. A monetary grant of Rs 50,000 per annum for life is granted to each scholar and a *Sanad* and a robe of honour (Shawl) by the President of India.

Rashtriya Sanskrit Sansthan, an autonomous organisation under the Ministry of Human Resource Development with its headquarters at Delhi, exercises academic and administrative control over eight *Kendriya Sanskrit Vidyapeethas* at Jammu, Allahabad, Guruvayoor, Puri, Jaipur, Lucknow, Sringeri and Garli (H.P.) where Sanskrit education in traditional *Shastras* and research in various fields is conducted. It conducts examinations for *Prathama to Vidyavaridhi* (Ph.D) and *Vachaspati* (D.Litt). Over 50 institutions all over the country are affiliated to the *Sansthan*, besides its own institutions.

Under the Centrally-sponsored scheme of development of Sanskrit education cent percent grant is given to the State governments/Union Territories for : (a) financial assistance up to Rs 1,000 per annum to eminent Sanskrit scholars in indigent circumstances; (b) for appointment of teachers for teaching selected modern subjects in the traditional Sanskrit *Pathshalas*,

(c) for providing facilities for teaching Sanskrit in high and higher secondary schools; (d) for scholarships to students studying Sanskrit in order to attract good students in IX to XII classes; (e) for various schemes for promotion of Sanskrit; (f) for research/research projects in Sanskrit received from Deemed Sanskrit Universities, NGOs, etc., duly recommended by the State governments and (g) to *Rashtriya Sanskrit Sansthan*, Deemed Universities, CBSE/NCERT/SCERT, etc., for schemes to improve the methodology of teaching Sanskrit in schools, Sanskrit colleges/*Vidyapeethas* and for orientation of teachers towards this end.

Under the scheme of modernisation of *Madarasa* Education introduced in 1993-94, 1,187 *Madarasas* were assisted with a grant of Rs 461 lakh during 1999-2000.

6 Cultural Activities

THE Department of Culture in the Ministry of Tourism and Culture plays a vital role in the preservation, promotion and dissemination of art and culture. The aim of the Department is to develop ways and means by which the basic cultural and aesthetic values and perceptions remain active and dynamic among the people. It also undertakes programmes of preservation, encouragement and dissemination of various manifestations of contemporary creativity. The Department is a nodal agency for commemorating significant events and celebrating centenaries of great persons.

VISUAL ARTS

LALIT KALA AKADEMI

To promote and propagate understanding of Indian art, both within and outside the country, the Government established Lalit Kala Akademi (National Akademi of Fine Arts) at New Delhi in 1954. The Akademi has regional centres called Rashtriya Lalit Kala Kendra at Lucknow, Calcutta, Chennai and Bhubaneswar as well as a small office at Mumbai. It has also set up Community Artists' Studio Complex with workshop facilities in painting, sculpture, print-making and ceramics at Garhi village in New Delhi.

Since its inception, the Akademi has been organising national exhibitions of contemporary Indian art with 10 national awards, each of Rs 25,000. Every three years, the Akademi also organises Triennale India, an international exhibition of contemporary art.

The Akademi honours eminent artists and art historians every year by electing them as Fellows of the Akademi. To propagate Indian art outside, the Akademi regularly participates in International Biennales and Triennales abroad and also organises exhibitions of works of art from other countries. To foster contacts with artists from outside, it sponsors exchange of artists with other countries under the various Cultural Exchange Programmes and Agreements of the Government of India.

The Lalit Kala Akademi accords recognition to art institutions/associations and extends financial assistance to these bodies as well as state Akademis every year. It also gives scholarships to deserving young artists of its regional centres. Under its publication programme, the Akademi brings out monographs on the works of Indian contemporary artists in Hindi and English and books on contemporary, traditional, folk and tribal arts authored by eminent writers and art critics. The Akademi also brings out bi-annual art journals, *Lalit Kala Contemporary* (English), *Lalit Kala Ancient* (English) and *Samkaleen Kala* (Hindi). Apart from these, it brings out large size multi-colour reproductions of contemporary paintings and graphics from time to time. The Akademi has started a regular programme on research and documentation.

Scholars are given financial assistance to undertake projects in contemporary folk, field projects on various aspects of Indian society and culture for better understanding, salvage and revitalisation of the rich cultural heritage of the country.

The Museum has a large, well-equipped library with over 10,000 books and subscribes to 125 National and International journals. It also has an audio-visual unit, a computer section with multimedia CD ROM and editing facilities. The Akademi maintains a website.

PERFORMING ARTS

MUSIC

Two main schools of classical music *Hindustani* and *Carnatic* continue to survive through oral tradition being passed on by teachers to disciples. This has led to the existence of family traditions called *gharanas* and *sampradayas*.

DANCE

Dance in India has an unbroken tradition of over 2,000 years. Its themes are derived from mythology, legends and classical literature, two main divisions being classical and folk. Classical dance forms are based on ancient dance discipline and have rigid rules of presentation. Important among them are *Bharata Natyam*, *Kathakali*, *Kathak*, *Manipuri*, *Kuchipudi* and *Odissi*. *Bharata Natyam* though it derives its roots from Tamil Nadu, has developed into an all India form. *Kathakali* is a dance form of Kerala. *Kathak* is a classical dance form revitalised as a result of Mughal influence on Indian culture. Manipur has contributed to a delicate, lyrical style of dance called *Manipuri*, while *Kuchipudi* is a dance form owing its origin to Andhra Pradesh. *Odissi* from Orissa, once practised as a temple dance, is today widely exhibited by artistes across the country. Folk and tribal dances are of numerous patterns.

Both classical and folk dances owe their present popularity to institutions like Sangeet Natak Akademi and other training institutes and cultural organisations. The Akademi gives financial assistance to cultural institutions and awards fellowships to scholars, performers and teachers to promote advanced study and training in different forms of dance and music, especially those which are rare.

THEATRE

Theatre in India is as old as her music and dance. Classical theatre survives only in some places. Folk theatre can be seen in its regional variants practically in every region. There are also professional theatres, mainly city-oriented. Besides, India has a rich tradition of puppet theatre, prevalent forms being puppets, rod puppets, glove puppets and leather puppets (shadow theatre). There are several semi-professional and amateur theatre groups involved in staging plays in Indian languages and in English.

SANGEET NATAK AKADEMI

Sangeet Natak Akademi, the National Akademi of Music, Dance and Drama, was founded in 1953 to promote the performing arts in collaboration with the states and voluntary organisations. By arranging free performances by talented artists, the Akademi seeks an enhanced public appreciation of music, dance and drama, together with exchange of ideas and techniques for the common gain of Indian performing arts.

Kathak Kendra, Delhi, and Jawaharlal Nehru Manipur Dance Academy, Imphal, are training institutions run by the Akademi. While the Kathak Kendra imparts training in Kathak Dance and Music, the Jawaharlal Nehru Manipur Dance Academy imparts training in Manipuri dance and allied arts. Rabindra Rangshala situated on the Delhi ridge is the third constituent unit of the Akademi. The management of these institutions vests in the Executive Board of the Akademi, which is assisted by the Advisory Committees of these constituent units.

In furtherance of its objectives, the Akademi is supporting training programmes in *Chhau* dance of *Mayurbhanj* and *Seraikella* as also *Koodiyattam* in Kerala. The Akademi also runs the following schemes: assistance to theatre directors and playwrights, promotion and preservation of traditional performing arts, support to art forms which are in danger of extinction, inter-state cultural exchange programmes, cultural exchange programmes with foreign countries, documentation and dissemination, etc. The Akademi also annually honours artistes in the field of performing arts and holds festivals, seminars, workshops, etc.

NATIONAL SCHOOL OF DRAMA

The National School of Drama (NSD) - one of the foremost theatre training institutions in the world and the only one of its kind in India was set up by Sangeet Natak Akademi in 1959. Later in 1975, it became an autonomous organisation, financed entirely by Department of Culture. The objective of NSD is to train students in all aspects of theatre, including theatre history, production, scene design, costume design, lighting, make-up, etc.

NSD has produced a galaxy of talents — actors, directors, script-writers, designers, technicians and educationists who work not only in theatre but in film and television also — winning several awards, national and international. The training in the School is based on a thorough, comprehensive, carefully planned syllabus. The systematic study and practical performing experience of Sanskrit drama, modern Indian drama, traditional Indian theatre forms, Asian drama and western drama give the students a solid grounding and a wide perspective in the art of the theatre. In order to establish links between traditional theatre forms of India and modern expressions, the School brings in experts to train the students in these forms and also sends students to regional centres for training in traditional theatre. The School has also attracted to its training faculty some of the finest creative talents from within

the country and abroad. The school has its performing wing, a Repertory Company, and Theatre-in-Education Company called *Sanskaar Rang Toli* that perform for Children and does workshops for children and teachers. The school provides a three-year Diploma in Dramatic Arts course. NSD has its Regional Centre at Bangalore. The school organised the first and the second National Theatre Festivals during March-April 1999 and March-April 2000 respectively.

LITERARY ART

Rediscovery of ancient and medieval Indian literature and development of modern literature in major Indian languages and English mark the literary activities of present-day India. A large number of literary periodicals and magazines, literary institutions and All India Radio have given impetus to the growth of modern Indian literature.

SAHITYA AKADEMI

Sahitya Akademi is the Indian National Academy of Letters meant to promote the cause of Indian literature through publications, translations, seminars, workshops, cultural exchange programmes and literary meets organised all over the country. The Akademi was founded in March 1954 as an autonomous body fully funded by the Department of Culture, Government of India. It was registered as a Society in 1956. Sahitya Akademi has a written constitution to guide and shape the modalities of its various functions. The Akademi has recognised 22 languages. It has an Advisory Board of ten members in each of these languages that suggests various functions and publications in the concerned languages. There are four Regional Boards to promote regional interaction among the languages of the north, west, east and south. Besides its Head Office in New Delhi it has four offices in Calcutta, Mumbai, Bangalore and Chennai. The Akademi has four translation centres at Bangalore, Delhi, Mumbai and Santiniketan, besides a project office at Baroda for promotion of oral and tribal literature and an Archives of Indian literature. It has a Library stocking about two lakh books in different languages.

Sahitya Akademi recognises eminent writers through 22 Awards for creative writing, 22 translation prizes, fellowships for distinguished contribution to literature, *Bhasha Samman* meant to promote peripheral languages, Ananda Coomaraswamy Fellowship for South Asian scholars and Honorary Fellowships for foreign scholars who have done significant work in Indian literature. The Akademi publishes books in 22 languages including translations of Award-winning works, monographs on the great pioneers of Indian literatures, histories of literature, Indian and foreign classics in translation, anthologies of fiction, poetry and prose, biographies, Registers of Translators, Who's Who of Indian Writers and Encyclopaedia of Indian Literature. So far the Akademi has published over 3,000 books in these different categories. It has three journals, *Indian Literature* (bi-monthly in English), *Samakaleena Bharatiya Sahitya* (bi-monthly in Hindi) and *Sanskrita Pratibha* (half-yearly in Sanskrit).

Sahitya Akademi holds about 30 regional, national and international seminars every year on various topics in literature, literary history and aesthetics. Besides, it organises a series of programmes, such as *Meet the Author*, *Kavisandhi*, *Kathasandhi*, *Asmita*, *Mulakat*, *Men and Books*, *Through My Window*, *Loka*, *The Many Voices*, *Avishkar*, *Antaral*, and *Literary Forum*. The Akademi also regularly holds Translation Workshops.

The Akademi holds annually a week-long Festival of Letters every year, usually in February. It has certain special projects like the *Ancient Indian Literature*, *Medieval Indian Literature* and *Modern Indian Literature* together constituting ten volumes of the best of Indian writing over five millennia. Another project for the translation and publication of Tribal Literature has been established at Vadodara as its headquarters. The Akademi has also launched a collaborative project with the National Book Trust, to bring out 100 Indian classics in translation. Another project is the Archives of Indian Literature that is meant to document literature through films, videos, audios, CDs and to preserve manuscripts, photographs and other materials associated with eminent Indian writers.

The Akademi gives Travel Grants to young authors to interact with writers in other parts of India. It also has a cultural exchange programme where Indian writers and scholars are sent abroad and foreign writers and scholars received in India. Sahitya Akademi has launched its website:<http://www.Sahitya-akademi.org>.

FELLOWSHIPS AND FINANCIAL ASSISTANCE

To provide financial support to outstanding artistes for creative work in various fields of performing, plastic and literary arts the following schemes are being implemented by the Government.

EMERITUS FELLOWSHIPS

The scheme of Emeritus Fellowships has been formulated with a view to giving financial support to artistes who have achieved a high degree of excellence in their respective fields, to enable them to continue experimentation in a spirit of financial freedom. The value of the Fellowships is Rs 7,500 per month and is tenable for a period of two years. The total number of fellowships has been increased from 24 to 30 per year from 1998-99.

KUMAR GANDHARVA FELLOWSHIP

A Fellowship in the memory of Pt. Kumar Gandharva has been instituted from 1992-93. The fellowship is equated to the Emeritus fellowship and is awarded by the Government to a distinguished senior artiste in the age-group of 30-40 years in the field of music, performing and visual arts. The amount of the fellowship is Rs 7,500 per month for a period of two years. The number of fellowships has been increased from one to five per year from 1998-99.

SENIOR/JUNIOR FELLOWSHIP SCHEME

The scheme has been formulated to provide basic financial support for a very advanced training on individual creative efforts for revival of our traditional form of art. Artistes above 40 years are provided support for senior fellowships up to Rs 6,000 per month, whereas the junior fellowships is awarded at the rate of Rs 3,000 per month to the artistes in the age group 25 to 40 years. The number of senior and junior fellowships per year is 150 and 300 respectively and the duration of fellowship is two years.

FELLOWSHIP IN NEW AREAS

The scheme has been introduced in 1998-99 with the objective to encourage application of modern ideas, principles, methodologies and technology to art and culture related issues. The fields covered are: (i) indology; (ii) cultural economics; (iii) structural and engineering aspects of monuments; (iv) numismatics; (v) epigraphy; (vi) scientific and technological principles of conversation; (vii) sociology of culture; and (viii) management of heritage and art and cultural institutions. The total number of senior fellowship is 15 per year, and the fellowship amount is Rs 6,000 per month. The number of junior fellowship is 10 and fellowship amount is Rs 3,000 per month. The fellowships are awarded for a period of two years.

SCHOLARSHIP TO YOUNG ARTISTES

Under the scheme financial assistance is given to outstanding artistes, in the age-group of 18-35 years for advanced training within India, in the fields of music, dance, painting, sculpture, drama and folk, traditional and indigenous arts. The duration of scholarship is two years and the value is Rs 2,000 per month. The number of scholarships has been increased from 250 to 400 per year from 1998-99.

GRANTS TO CULTURAL ORGANISATIONS

Financial assistance is given to institutions of all-India character, engaged in the development of cultural activities, to meet part of their expenditure on maintenance and development activities. The institutions assisted are the Institute of Historical Studies, Calcutta, and the Institute of Traditional Culture, Chennai.

ARCHAEOLOGICAL SURVEY OF INDIA

The Archaeological Survey of India (ASI) established in 1861 functions as an attached office of the Department of Culture, Ministry of Tourism and Culture. Its major activities are : maintenance, conservation and preservation of Centrally-protected monuments/sites and remains; conducting archaeological explorations and excavations; chemical preservation of monuments and antiquarian remains; architectural survey of monuments; development of epigraphical research; setting up and re-organisation of site museums in India; development of environment at Centrally-protected monuments; and training in archaeology. At present the Survey has declared 3,598 monuments of

national importance in the country which include 16 world heritage monuments/sites.

MUSEUMS

Museums are repositories of our cultural heritage and are meant for acquisition, conservation and preservation of historical, technical and other materials against decay and for their transmission to posterity as records of history. They also serve as important audio-visual means of education. The development of museums in all their ramifications is considered important as they promote national integration and international understanding. Great emphasis is laid on the documentation of the existing collection in Government and private museums, preservation of the collections by using latest scientific aids and publication of the catalogue of the existing collection.

The National Museum was established on 15 August 1949 on the premises of the Rashtrapati Bhawan, New Delhi. The Museum was formally inaugurated on 18 December 1960 on its present premises. Initially the National Museum had a very small collection of about 1,000 works of art. Now there are more than 2,00,000 works of exquisite art of diverse nature, both of Indian and foreign origin, covering a time-span of 5,000 years of our cultural legacy. The opening of the National Museum Institute of History of Art, Conservation and Museology (Deemed University) in 1989 for M.A. and Ph.D students has added a new dimension to it.

Initially ten permanent galleries were set up in 1960 representing all aspects of art, archaeology and anthropology. There are now 26 permanent galleries. New galleries have been added such as Buddhist Art, Tantra Art, Decorative Arts, Evolution of Indian scripts and coins, Tanjore and Mysore School Paintings and Jewellery Gallery. The National Museum Library today possesses 48,163 books on ancient and medieval history, archaeology, fine arts, anthropology, etc., including the Elwin, Satyam Bhai, Hermaneck and Desikacharya collection.

The Museum has been organising seminars and exhibitions on various themes. It has been holding temporary exhibitions on selected themes from time to time, in addition to a number of international exhibitions.

The National Museum has been actively associated with 161 countries for the last 51 years in exchange of Museum personnel, art exhibitions, art publications and reproduction of works of art under the Cultural Exchange Programme.

The National Council of Science Museums (NCSM), Calcutta, an autonomous organisation under the Department of Culture, is primarily engaged in the task of popularising science and technology amongst the students in particular, and masses in general, through a wide range of interactive programmes and activities. The NCSM administers and manages 26 Science Museums/Centres/Parks throughout the country. The Council has also developed a large number of interactive indoor and outdoor

exhibits and robotic dinosaurs. Science City is a unique venture of NCSM and is planned to be a major attraction to the residents of Calcutta as well as national and international visitors to the metropolis. Set up on a 50-acre plot of land, it will be one of the largest and finest in the world, presenting science and technology to the people through gigantic and thrilling experiences. The Council has set up nearly 300 school science centres in rural schools throughout the country and is providing them with teaching aids, and training facilities. NCSM is setting up a Science Centre at Goa which will lay emphasis on the science of Oceans and their impact on human life.

The Allahabad Museum was declared as an institution of national importance by the Government of India in 1985. It has been working under the aegis of the Department of Culture, Ministry of Tourism & Culture, Government of India since then. The Museum is famous for its collection of Bharhut, Bhumara and Jamsot sculptures and for the terracotta from Kausambi, Bhita, Jhusi, Patliputra, Samath, Rajghat and Ahichhatra. The Museum also has paraphernalia and family heirlooms of the Nehrus, including manuscripts of *An Autobiography* by Jawaharlal Nehru and a large volume of correspondence. Among the Museum collections are paintings of the Bengal School of Painters and Vijayavargiya. Among the foreign painters represented in the Museum mention may be made of Nicholas Roerich, his son Svetoslav Roerich and Anagarika Govinda.

The National Research Laboratory for Conservation of Cultural Property (NRLC), Lucknow, a subordinate office of the Department of Culture, Government of India, is a scientific institution engaged in the conservation of cultural heritage. Its activities include conducting research in materials and methods of conservation, study of materials and technologies of art objects, training in conservation and rendering technical advice and assistance to museums and allied institutions. The library of the laboratory has a good collection of literature on different aspects of conservation, and it provides documentation services like abstracting, annotated bibliographies on selected topics, etc., to other institutions. Publication of technical notes and manuals for conservators is another important activity of the laboratory. The laboratory conducts each year, a ten-day orientation workshop for Directors and Curators on preventive conservation and a six-month training course for conservators. A regional centre of NRLC for the southern region has been established at Mysore. The NRLC maintains a close collaboration with the Council of the International Centre for the study of the Preservation and Restoration of Cultural Property (ICCRP), Rome and is represented at the ICCROM Council.

The National Gallery of Modern Art (NGMA), founded in 1954, is an autonomous organisation under the Department of Culture. The main aim of the NGMA is the promotion and development of contemporary Indian Art. The collection of NGMA comprises nearly 14,500 works of art, representing about 1,000 contemporary Indian artistes. The collection has been built up, mainly by purchase and also by gift. The Gallery's important collections

include paintings, sculpture, graphic arts and photographs. NGMA organises exhibitions from its collection and under cultural exchange programme periodically. Several colour reproductions have been brought out. NGMA's objective is to help people look at the works of modern art with understanding and sensitivity. In keeping with this, NGMA, Mumbai was inaugurated in 1996. Plans are ahead for opening a branch at Bangalore in 2001-2002.

The Salar Jung Museum, Hyderabad, an institution of national importance, came into being on 16 December 1951. It is a rich repository of Global Art collections. Named after the erstwhile noble family of the Salar Jungs, the collectors of this treasure trove. The major portion of the Museum's collection was acquired by Mir Yousuf Ali Khan popularly known as Salar Jung-III (13 June 1889-2 March 1949). The collection consists of Indian Art, Middle Eastern Art, Far Eastern and European Art. Apart from this there is a gallery devoted to the illustrious Salar Jung family, the Children's Section, a rich reference library, reading room and a rare manuscripts section with Arabic, Urdu, Persian manuscripts which make the museum a place of education and enjoyment for the people from all walks of life.

NATIONAL ARCHIVES OF INDIA

The National Archives of India (NAI), known until independence as Imperial Record Department was established on 11 March 1891. It is the official custodian of all non-current records of permanent value of the Government of India and its predecessor bodies. It is the premier organised record repository in Asia with its holdings running over 30 km of linear shelf space. The National Archives of India is an attached office of the Department of Culture. It has four regional repositories at Bhopal, Bhubaneswar, Jaipur and Pondicherry.

Major activities of the Department include (i) Making public records accessible to various Government agencies and research scholars, (ii) preparation of reference media, (iii) preservation and maintenance of records and conducting of scientific investigations for the said purpose, (iv) evolving records management programmes (v) rendering technical assistance to individuals and institutions in the field of conservation of records, (vi) imparting training in the field of archives administration, records management, reprography, repair and conservation of records, books and manuscripts at professional and sub-professional levels, and (vii) creation and promotion of archival consciousness in the country by celebrating 'Archives Week' every year.

The National Archives of India provides financial assistance to state archives, voluntary organisations and other custodial institutions, so that the documentary heritage is preserved and archival science is promoted. NAI hoisted its website <http://www.nationalarchives.nic.in> on 26 January 2000.

MARINE ARCHAEOLOGY

India initiated underwater archaeological research in 1981 by establishing Marine Archaeology Centre in the National Institute of Oceanography, Goa.

The main objective of Marine Archaeology is to reconstruct the history of past seafaring activities from material remains and the study of submerged archaeological sites.

Since 1983 underwater archaeological explorations have been carried out almost every year in the waters of ancient Dwarka. Successive investigations of Dwarka in about 4 to 12m water depth have revealed the presence of a number of submerged stone building blocks. The explorations during 1992 to 1995 were carried out mainly to demarcate the limits of the submerged Dwarka and also to document properly the submerged structures and objects noticed. At Dwarka approximately 9,80,000 sq m area was explored between the water depth of 3 to 12 m off *Samudranarayana* Temple. The important findings were documented mainly with still photography, underwater video filming and underwater drawings.

Preliminary underwater explorations off Somnath were carried out during 1992-95. The findings were a three-holed triangular stone anchor and a three-holed prismatic stone anchor measuring in length about a meter, and a one-holed circular stone object similar to that found in Dwarka.

Marine archaeological explorations are being carried out since 1991 in Poompuhar waters in collaboration with the Department of Archaeology, Government of Tamil Nadu. The main objective of this survey was to delineate the submerged extension of the ancient town of Kaveri-poompattinam, north of the present river Kaveri and to explore the deep water where a U-shaped structure was noticed during earlier explorations. Diving and airlifting operations were undertaken north of the river Kaveri at a water depth of 5-7 m. Deeper waters were also explored to confirm whether the U-shaped structure was man-made. Diving at the shipwreck site became essential to ascertain the country to which it belonged. Off-shore exploration was carried out in shallow waters, north of river Kaveri and south of the present Poompuhar village. A few dressed stone blocks were found in various water depths. One of them was semicircular with an L-shaped cut. Airlift operations yielded building blocks of stone and a number of potsherds of the early historical period (300 BC to 300 AD).

Explorations carried out in deeper waters (23 m depth) revealed the presence of an U-shaped stone structure which was located about five km seaward of Kadaikkadu. The structure lies in a north-south direction. In the centre of the object there is a hollow which is filled with sand. Maximum height of structure on the outer side is about three m, while on the inner side it is less than one m. On the northern side of the object an opening was noticed. The height of the object is greater in the south than in the north. The circumference of this object is 140 m. Maximum length is 40 m and its width is 20 m. About 40 m north of this structure two smaller objects of the same material were found which seem to be related to the main structure. It is believed that these are man-made structures, perhaps, pertaining to a Buddhist relic.

Geophysical explorations carried out with the sub-bottom profiler revealed a submerged palaeochannel of the river Kaveri in the north of Poompuhar. The width of the channel varies from 300 m to 500 m and it is buried 20 m below the sea bottom. This channel extends up to deeper water structures, suggesting that the ancient shoreline was about five km seaward of the present shoreline.

The Poompuhar wreck seems to have belonged to the Dutch rulers in India and might have sunk during a war against the French in 1762/3 as indicated by a few lead ingots from the wreck. Two of them bear the symbols of a crown below which is the letter 'D'. This symbol of the crown over 'D' is engraved on the coins issued by the Dutch in India.

The on-shore explorations of Lakshadweep revealed the presence of significant potsherds of red ware, red polished ware, dull red ware, red and black ware, and buff ware from Kavaratti, Androth and Amin. Two budtha heads, one 9% cm and the other 5% cm high carved out of locally available coral rock found earlier by inhabitants of Androth were examined and assigned to the 6th-7th century AD. The presence of red polished ware suggests the earliest habitation on these islands date about 100-500 AD. Of the four shipwrecks located in Lakshadweep waters, one was at the reef of Suheli Par and three at Minicoy. Part of the first wreck seems like a tank part lying on the reef along with some tyres, which may be a warship belonging to the 1st or 2nd World War. Two shipwrecks explored by diver archaeologists at a water depth of 4-15 m are about 100 m long. In one of them the steam engine is intact with a 2" m long shaft attached between engine and propeller. Another chain more than 100 m long was also observed at a depth of about 10 m. In the other wreck the engine has disintegrated, however two boilers can be clearly seen.

From the information gathered from hydrographic charts, Marine Archaeology Centre of the National Institute of Oceanography, Goa located the wreck at Grand Island off Goa waters in 1987. This wreck is a steel hulled cargo vessel with cabin, hatch, bridge and accommodation. It is more than 60 m long. This ship might have sunk as a furious storm after it lost anchor and drifted towards the shore. The Marine Archaeology Centre resumed exploration in November 1994. This wreck can be an excellent training base for Marine Archaeologists.

In December 1989 the Marine Archaeology Centre discovered a historical shipwreck at Amor Shoals in Mormugao waters. The shallow depth suggested that the vessel must have run aground on the rocky shoals. The wreck revealed large and well-finished granite blocks. Other finds were a cannon and an iron anchor.

LIBRARIES

Libraries are the keepers of our history and culture. Development of library systems is an important component of the scheme of non-formal and

continuing education. Constitutionally the subject 'libraries' is included in the State List. The Centre has jurisdiction only over libraries established by it and institutions of national importance as declared by it. There are more than 60,000 libraries in the country.

National Library, Calcutta serves as a permanent repository of all readings and information material produced in India as well as printed material written by Indians and concerning India written by foreigners, wherever published and in whatever language. Under the Delivery of Books Act, 1954 the National Library is entitled to receive one copy of each publication published in the country. It is also a repository of the United Nations publications. It renders multi-faceted services and extends different types of bibliographical assistance to numerous readers and scholars, ministries, national and international organisations. Over 30 lakh books, besides periodicals, maps, manuscripts, newspapers and microfilm/microfiche totalling several million items are housed in the Library. Invaluable and prestigious personal collections like the Asutosh Collection, Jadunath Sarkar Collection, Buhar Collection and some others are in its possession.

The Central Reference Library, Calcutta is responsible for the compilation, publication and sale of the *Indian National Bibliography*. This is a monthly record of current Indian publications in 14 languages including English based on receipts in the National Library, Calcutta, under the provisions of the Delivery of Books, Act, 1954. The Library is also compiling and publishing Index Indiana, an annual index to select articles appearing in current Indian periodicals in six major Indian languages.

Raja Rammohan Roy Library Foundation has made great strides in promoting library services in the country since its inception in 1972. Currently it operates two types of schemes of assistance, i.e., matching and non-matching. Matching schemes are operated from the joint fund created with state government's contribution along with equal share from the Foundation whereas non-matching schemes are operated fully from the Foundation's own resources. During 1999-2000, an expenditure of Rs 7.35 crore was incurred on matching schemes and Rs 2.83 crore under non-matching schemes to about 7,000 libraries in the country. The foundation publishes a quarterly newsletter and one bi-annual journal *Granthana*.

The Delhi Public Library, Delhi established in 1951 with financial and technical assistance from UNESCO, has since developed into a metropolitan public library system consisting of a central library, a zonal library at Sarojini Nagar, and four branches at Patel Nagar, Laxmi Bai Nagar, Karol Bagh and Shahdara; 25 sub-branch libraries; 24 libraries at re-settlement colonies; nine reading-rooms which inculcate reading habits among the weaker sections of society; a braille library with a network of 19 mobile service points for the visually handicapped, both students and adults; three sports libraries of the status of sub-branches located in different stadia in Delhi; special services in two hospitals for the patients and one at Central Jail for the prisoners;

13 deposit stations which are run by various societies/associations and a network of 73 mobile service stations to serve the urban and rural areas in the National Capital Territory of Delhi. The Delhi Public Library is a recipient library under the Delivery of Books Act. Its book stock is more than 14.77 lakh.

The Central Secretariat Library originally known as Imperial Secretariat Library was established in 1891. The Library has a collection of over 8.5 lakh volumes. The main objective of the Library is to provide facilities for reference and research to Central Government offices/organisations, employees, general readers and research scholars. The Library has a centralised membership system for the library complex. The Library has a separate Hindi and regional languages wing-Tulsi Sadan-at Bhawalpur House, New Delhi and a branch library at R.K. Puram, New Delhi. The Library is utilising the latest technological developments for information handling. To improve the user service, it has also initiated various publication projects. The Library has well equipped reprographic and micrographic facilities.

COPYRIGHT LIBRARIES

Under the Delivery of Books and Newspapers (Public Libraries) Act, 1954, four libraries are entitled to receive a copy of new books and magazines published in the country. These are the National Library, Calcutta, Central Library, Mumbai; Connemara Public Library, Chennai and Delhi Public Library, Delhi. There are also specialized libraries for researchers. Prominent among them are Nehru Memorial Museum and Library, New Delhi, Indian Council of World Affairs, New Delhi, Indian Statistical Institute, Calcutta, Gokhale Institute, Pune, Theosophical Society, Chennai, National Council of Applied Economic Research, New Delhi and Indian Institute of Public Administration, New Delhi. Apart from these some of the bigger universities also have sizeable libraries.

MANUSCRIPT LIBRARIES

KHUDA BAKHSH ORIENTAL PUBLIC LIBRARY

Khuda Bakhsh Oriental Public Library, Patna established in 1891 was declared as an institution of national importance in 1969 by an Act of Parliament. It has a rich collection of over 20,000 Arabic, Persian, Urdu, Turkish, Pali and Sanskrit manuscripts and over 2,000 Mughal and Rajput paintings besides 2,00,000 printed documents. More than 1,600 audio and video tapes of eminent persons have been prepared. It brings out a quarterly research journal. The Library has published critical editions of 64 rarities. The Library has instituted a few fellowships at par with UGC. It has been recognised by seven universities as a centre of research for awarding the degrees of Ph.D./D.Litt. The Library has also instituted a prestigious award which carries an amount of Rs one lakh and a citation. It has been provided with a computer centre with Internet connectivity.

TMSSM LIBRARY

The Thanjavur Maharaja Serfoji's Saraswati Mahal (TMSSM) Library, Thanjavur is one of the few medieval libraries that exists in the world. It symbolises a priceless repository of culture and time-defying treasurehouse of knowledge, built up by the successive dynasties of Nayaks and Marathas of Thanjavur. The Library was made a public library in 1918 by the Madras Government and was registered on 9 July 1986 as a society under the Tamil Nadu Societies Registration Act. Now the Library is administered by both the Government of India and the Government of Tamil Nadu. The Library has 46,695 manuscripts in Sanskrit, Marathi, Telugu, Tamil and other languages in both palmleaf and paper form. More than 35 volumes of descriptive catalogues for these manuscripts have been brought out. Miniature paintings, colour drawings, atlases, maps, charts and rare prints in its collection are very attractive and reflect the Tanjore school of paintings. Besides, it has 52,000 books in Indian languages covering various disciplines and a rare collection of about 4,500 books in European languages collected by Raja Serfoji II. The Library has published more than 420 books from the unpublished manuscripts.

RAMPUR RAZA LIBRARY

The Rampur Raza Library housed in Hamid Manzil in the fort of Rampur is an autonomous body under the Department of Culture, and was set up under the Rampur Raza Library Act, 1975. It has a priceless collection of about 51,000 printed books and 15,000 manuscripts, besides a large number of miniature paintings and specimens of Islamic calligraphy and *Bhoj Patras*, etc.

ASIATIC SOCIETY

Asiatic Society, Calcutta was founded in 1784 by Sir William Jones (1746-1794), eminent indologist, with the objective of inquiring into the history, science, arts and literature of Asia. This institution proved to be the inspiration behind all literary and scientific activities in the country. Directly or indirectly it has contributed to the growth and development of most of the major antiquarian, scientific and literary institutions in India. The Society was also the model for all other Asiatic Societies of the world. Its historic importance was recognised and the Government of India declared it as an 'institution of national importance' by an Act of Parliament in 1984, its bicentenary year. The Society maintains a museum which includes an Ashokan rock edict and copper plates ranging from the third century BC and important documents, and coin collections for the study of Indian history and culture. It contains approximately 65,000 MSS in various languages. With its library of printed books, archives and the collection of MSS, it is one of the leading centres of study of indology in the world. Recently the Society has expanded its activities considerably in the sphere of establishing intercultural relationships with various countries of the world. It has been chosen by UNESCO as one of the best institutions for its 'Memory of the World Programme'. It has undertaken the Encyclopaedia Asiatica Project in eight volumes. A new art gallery has been opened at the historic Metcalfe Hall acquired by the Society.

INSTITUTIONS OF TIBETAN AND BUDDHIST STUDIES

Indian scholars, many centuries ago took arduous journeys across the Himalayas to Tibet and carried with them Indian philosophy and thought. Evolution of Tibetan thought and culture was a consequence of this. After Independence, a number of institutions have been set up in the country for preservation of Tibetan culture, philosophy, literature, etc. The Government is also implementing a scheme of financial assistance to such organisations.

The Central Institute of Higher Tibetan Studies, Varanasi, an autonomous organisation fully financed by the Centre was established with the objective of the preservation of Tibetan culture and tradition, restoration of ancient Indian literature preserved in Tibetan languages and providing higher education in Buddhist studies to students from the border areas. The Institute prepares students for various courses. It has been given the status of deemed-to-be university from April 1988.

The Central Institute of Buddhist Studies, Leh was established in 1959 to train students in Buddhist philosophy, literature and arts. It is affiliated to Sampurnanand Sanskrit Vishwa Vidyalyaya, Varanasi.

The Sikkim Research Institute of Tibetology, Gangtok is an autonomous organisation set up for research and studies in Tibetology. The Institute has done significant work in promoting research in CHHO (Tibetan for *Dharma*) and associated subjects like iconography, medicine, astrology, history, etc. It publishes a journal, a bulletin of Tibetology. The Institute receives maintenance and development grants from the Government of India.

The Library of Tibetan Work and Archives, Dharamsala, acquires and preserves Tibetan books and manuscripts. The main activities of the library are to provide research facilities, to run regular courses on Buddhist philosophy and Tibetan languages, classes on Tibetan traditional woodcarving and *thanka* paintings, etc.

Nava Nalanda Mahavihara, Nalanda was set up in 1956. Its objectives are : to develop a residential centre of education of international importance for the studies in Pali and Buddhism, Buddhist philosophy, logic and epistemology, to admit graduates and oriental scholars of recognised universities/institutions to train them in post-graduate programmes of Buddhist studies and research; to grant academic awards, fellowships, scholarships; to translate and publish Buddhist works from Pali, Sanskrit and other languages, to organise a library of the Buddhist literature, etc.

ANTHROPOLOGICAL SURVEY OF INDIA

Anthropological Survey of India established in December, 1945, is a scientific research organisation under the Department of Culture, Ministry of Human Resource Development with its headquarters in Calcutta and seven regional centres, a sub-regional centre and eight field stations located in different parts of the country including a camp office in New Delhi. Since its inception as

a nodal organisation of scientific research in anthropology and allied disciplines, it has the enviable record of conducting bio-cultural research covering the entire range of human evolution in the country.

INDIRA GANDHI RASHTRIYA MANAV SANGRAHALAYA

Indira Gandhi Rashtriya Manav Sangrahalaya, Bhopal, an autonomous organisation under the Department of Culture, Government of India, is dedicated to the depiction of an integrated story of humankind in global perspective with special focus on India. The Sangrahalaya has been developed in the picturesque 200 acre site as a predominantly open air museum, supported by an indoor display related to three broad fields: (a) human evolution and variation; (b) culture and society in pre and proto-historic times; and (c) contemporary cultures. It has set up four open-air exhibitions depicting tribal habitat, life in coastal villages, life in desert villages and heritage of Indian pre-historic rock art through life-size exhibits in authentic environmental settings. The museum has 36 pre-historic rock shelters with about 1,000 to 6,000 year old paintings. Some of these shelters have been developed as exhibits in the fourth open air exhibition on 'The Rock Art Heritage'. Regular educational activities and live programmes related to tribal and folk life are conducted in the setting of these exhibitions. There is an indoor facility for periodical and special exhibitions. The Sangrahalaya is also developing an indoor museum. The other programmes being carried out by this organisation are the salvage of anthropological objects of national heritage, research projects and multi-media documentation of cultures.

Live demonstration of techniques, folk culture, folk and classical music are also organised periodically in open air settings. For the dissemination of recent museum methods, the Sangrahalaya organises lectures, seminars, colloquia, etc. The museum also undertakes audio, video, photo, cine and textual documentation and research and field projects on various aspects of Indian society and culture for better understanding, salvage and revitalization of the rich cultural heritage of the country.

The Museum has a large, well-equipped library and subscribes to national and international journals. It also has hundreds of hours of audio-visual cassettes, a video-audio unit, a sizeable computer section with multi-media CD ROM and editing facilities.

PROMOTION OF CULTURE

CENTRE FOR CULTURAL RESOURCES AND TRAINING

The Centre for Cultural Resources and Training (CCRT) set up in May 1979 as an autonomous organisation is under the administrative control of the Department of Culture, Ministry of Tourism and Culture. With headquarters in New Delhi, it has two regional centres at Udaipur and Hyderabad.

The broad objectives of the CCRT have been to revitalise the education system by creating an understanding and awareness among students about

the plurality of the regional cultures of India and integrating this knowledge with education. It conducts training programmes for in-service teachers from all parts of the country. An important component of training is to create an awareness, amongst students and teachers of their role in solving environmental pollution problems and conservation and preservation of the natural and cultural heritage. It has also been organising academic programmes on Indian art and culture for foreign teachers and students. Workshops are conducted in various art activities like drama, music, narrative art forms, etc.

The CCRT organises various educational activities for students, teachers and children which include, educational tours to monuments, museums, art galleries, craft centres, zoological parks and gardens, camps on conservation of natural and cultural heritage, camps on learning crafts, lectures and demonstrations by artists and experts on various art forms, demonstrations by artists and craft persons in schools.

Over the years, CCRT has been collecting resources in the form of scripts, colour slides, photographs, audio and video recordings and films.

The CCRT implements the Cultural Talent Search Scholarship Scheme since 1982. The scheme provides scholarships to outstanding children in the age group of 10 to 14 years, studying either in recognised schools or belonging to families practising traditional performing or other arts to develop their talent in various cultural fields particularly in rare art forms. The scholarships continue till the age of 20 years or the first year of a University degree. So far 4,863 students have been offered scholarships. The Centre has also instituted CCRT Teachers' Award which is given every year to selected teachers. The Award carries with it a citation, a plaque, an *angavastram* and an amount of Rs 10,000. During 1999-2000, 322 students were offered scholarships. The Centre organised nine Orientation Courses during 1999-2000 for 705 teachers.

ZONAL CULTURAL CENTRES

Zonal cultural centres have been conceptualised with the aim of projecting cultural kinships transcending territorial bounds. The idea is to arouse and deepen awareness of the local cultures and to show how these merge into zonal identities and eventually into the rich diversity of India's composite culture.

The seven zonal cultural centres established under this scheme are: (i) North Zone Cultural Centre, Patiala; (ii) East Zone Cultural Centre, Calcutta; (iii) South Zone Cultural Centre, Thanjavur; (iv) West Zone Cultural Centre, Udaipur; (v) North-Central Zone Cultural Centre, Allahabad; (vi) North-East Zone Cultural Centre, Dimapur and (vii) South-Central Zone Cultural Centre, Nagpur. The participation of states in more than one zonal cultural centre according to the cultural linkage is a special feature of the composition of the zonal centres.

RAMAKRISHNA MISSION INSTITUTE OF CULTURE

Ramakrishna Mission Institute of Culture, Calcutta is engaged in the promotion of thought, knowledge and education. Apart from its cultural activities at national and international levels, the Institute also maintains several schools of instruction.

INDIRA GANDHI NATIONAL CENTRE FOR THE ARTS

Indira Gandhi National Centre for the Arts (IGNCA) was established to commemorate the memory of the late Prime Minister, Mrs Indira Gandhi. This Centre launched on 19 November 1985 as a fully funded autonomous trust, is visualized as a centre encompassing the study and experience of all the arts - each for its own integrity, yet within a dimension of mutual dependence, inter-relatedness with nature, social structure and cosmology. Through diverse programmes of research, publication, training, creative activities and performance, the IGNCA seeks to place the arts within the context of the natural and human environment. IGNCA has been recognised as a research centre on Indian Arts for Ph.D degrees by Delhi University.

CENTENARIES AND ANNIVERSARIES

One of the important activities undertaken by the Government of India has been the commemoration of the centenaries of distinguished Indians who have left an indelible impression on the history and life of our country. National committees are set up for the centenaries which are considered to be of such importance. Year long programmes are drawn up by the committees for implementation during the centenary year. These programmes normally include organisation of national seminars, installation of statues, release of commemorative stamps and coins, publications and exhibitions and other functions. The Department of Culture also provides financial assistance to registered voluntary organisations for celebrating the centenaries of outstanding personalities which are not taken up for celebration by the Government of India.

GANDHI SMRITI AND DARSHAN SAMITI

Gandhi Smriti and Darshan Samiti (GSDS) was set up by the Department of Culture in 1984 primarily to maintain and look after the national memorial where Gandhiji was assassinated and now called 'Gandhi Smriti' and a permanent photo exhibition at Rajghat called 'Gandhi Darshan', which was created at the time of Gandhiji's birth centenary in the year 1969. The institution has brought out a number of books on Gandhi, communal harmony and national integration. It also publishes a quarterly newsletter to create awareness about the GSDS and also organises annual Gandhi Memorial lectures by eminent scholars both in India and abroad.

Gandhi Smriti at Tees January Marg, New Delhi is a national memorial now. It houses many memories of the last 144 days of Mahatma Gandhi and forms part of the rich national heritage. Gandhi Darshan offers a comprehensive exhibition on Gandhi.

MAULANA ABUL KALAM AZAD INSTITUTE OF ASIAN STUDIES

Maulana Abul Kalam Azad Institute of Asian Studies, under the administrative control of the Department of Culture is the centre for research and training of the life and works of Maulana Abul Kalam Azad and for the study of the social, cultural, political and economic movement in Asia from the middle of the 19th century. The Institute also maintains a library of books, newspapers, still photographs and materials on the secular traditions of modern India and events of the 19th century. It maintains a personal museum at the former residence of Maulana Abul Kalam Azad, which highlights the life and works of Maulana Abul Kalam Azad as a distinguished national leader and thinker.

GANDHI PEACE PRIZE

On 2 October 1994, on the occasion of the 125th birth anniversary of Mahatma Gandhi, the Government of India instituted an Annual International Gandhi Peace Prize to encourage and promote the significance of Gandhian values the world over. The Prize carries a cash award of Rs one crore, a citation and a plaque. The Prize is decided by a five-Member Jury headed by the Prime Minister of India. The first ever Gandhi prize for 1995 was given to Dr Julius K Nyerere, former President of Tanzania. The Prize for 1999 was conferred on noted Gandhian Murlidhar Devidas Amte (Baba Amte) by the President on 14 January 2000.

FESTIVALS OF INDIA

The Government of India has organised Festivals of India in the United Kingdom, USA, France, Soviet-Union, Sweden, Germany, China, Japan and Thailand. Reciprocally, Festivals of USSR, France, Sweden, Japan, China and Thailand have been held in India. The Festival of Germany in India which began in October 2000 is to last until March 2001.

7 Scientific and Technological Developments

INDIA has a long and distinguished tradition in science and technology from the ancient times to great achievements during this century; the latter half prior to independence has been related largely to pure research. In the past four decades, an infrastructure and capability largely commensurate with meeting national needs has been created minimising our dependence on other countries. A range of industries from small to the most sophisticated has been established covering a wide range of utilities, services and goods.

SCIENCE AND TECHNOLOGY INFRASTRUCTURE

Scientific and technological activities in India are carried out under a wide set-up consisting of Central government, State governments, higher educational sector, public and private sector industry, and non-profit institutions/associations. These institutional structures are the main contributors to research and development being carried out in the country. Notable among these are : the Council of Scientific and Industrial Research (CSIR); Indian Council of Agricultural Research (ICAR); Indian Council of Medical Research (ICMR). In addition, there are many departmental laboratories of various departments/ministries, viz., Department of Atomic Energy, Department of Electronics, Department of Space, Department of Ocean Development, Defence Research and Development Organisation, Ministry of Environment and Forests, Ministry of Non- Conventional Energy Sources and the Ministry of Science and Technology. Further, there are over 1,200 in-house research and development units in industrial undertakings supporting research in their respective industries. Many Indian Universities and Deemed Universities such as IITs also undertake substantial research and development work.

TECHNOLOGY POLICY STATEMENT

Technology Policy Statement (TPS) was formulated in 1983 with the basic objective of developing indigenous technology and ensuring efficient absorption and adaptation of imported technology appropriate to national priorities and availability of resources. A Technology Policy is being formulated to provide focus on the development of indigenous technologies and to make India self-reliant and competitive in the technological field.

PROGRAMMES OF THE DEPARTMENT OF SCIENCE AND TECHNOLOGY

The Department of Science and Technology, was set-up in May 1971 with

the objective of promoting research in the new areas and to play the role of a nodal department for organising, coordinating and promoting science and technology activities in the country. Over the years, the Department has evolved policy statements and guidelines, provided mechanisms for co-ordination in the areas of science and technology in which a number of institutions have interests and capabilities, supported grants-in-aid to scientific institutions and professional bodies.

RESEARCH AND DEVELOPMENT PROGRAMMES

The Department of Science and Technology has been playing a crucial role in identifying and promoting front-line and priority areas on Research and Development (R&D) in various disciplines of science and engineering. This support is provided through Science and Engineering Research Council (SERC) - an advisory body consisting of eminent scientists and technologists drawn from academic institutions like IITs, universities, national laboratories and industry. Every year around 1,000 project proposals are received for consideration in the Department, most of which fall in the category of basic sciences and engineering research. During 1999-2000, 217 research programmes were approved for financial support.

On the occasion of the 50th anniversary of India's Independence, the Government launched *Swarnjayanti Fellowships* for enabling outstanding young scientists to attain world class levels in science. The Fellowships are open to Indian scientists in the age group of 30-40 years, with proven capability for outstanding research work exploring new frontiers in their field of specialisation. During 1999, the Fellowships were awarded to six young scientists.

INFRASTRUCTURE DEVELOPMENT

'Intensification of Research in High Priority Areas'- IRHPA which was initiated during the Sixth Plan period, has helped in strengthening of the infrastructure and research capabilities in selected areas of science and engineering. Under this programme, units/core groups and National Research Facilities are established around an outstanding scientist to act as a focal point to nucleate research activity in these areas.

Facilities of sophisticated analytical instruments are provided to the scientists working in universities, R&D laboratories and industries through a programme of setting-up Regional Sophisticated Instrumentation Centres (RSICs) and Sophisticated Instrument Facilities (SIFs). RSICs are being supported at seven institutions namely IIT, Chennai; IIT, Mumbai; Bose Institute, Calcutta; CDRI, Lucknow; Punjab University, Chandigarh; NEHU, Shillong; and Nagpur University. The new Sophisticated Instrumentation Centre for Research and Testing, has been set-up at Vallabh Vidyanagar, Gujarat. The SIFs are in operation at IISc., Bangalore; AIIMS, New Delhi; and Gauhati University. EPMA facility is being supported under the programme of Roorkee University, Roorkee.

HUMAN RESOURCE DEVELOPMENT

The Department also supports different programmes aimed at identifying new talent and provide them with financial assistance in the form of fellowships for pursuing research in front-line areas of science and technology. Also, for the researchers the Department supports training programmes, summer schools and contact programmes. The programmes supported are: BOYSCAST fellowships, SERC student fellowships, etc. 41 young scientists were chosen for the BOYSCAST fellowships to work in the laboratories abroad. Fellowships are also awarded to undergraduate students to get first hand exposure of research in leading research laboratories.

In order to motivate bright young minds at their secondary school/college levels, and to encourage them to stick on to a career in science, a new scheme called *Kishore Vigyanik Protsahan Yojana* has been initiated. Talent would be scouted through a competitive mechanism at school level and scholars would be selected for an attractive fellowship/scholarship until they pass their Masters Degree in Science. Further, in order to generate trained manpower in selected areas of science and technology, training courses, summer/winter schools were organised in theoretical chemistry, earth sciences, astronomy and astrophysics, lasers, optics, atomic and molecular physics. Also, 396 Indian scientists working in educational institutions and national R&D laboratories were given partial financial assistance to enable them to participate in international conferences/workshops, etc.

TECHNOLOGY DEVELOPMENT AND RELATED PROGRAMMES

The Department has been catalytic in identifying, formulating and implementing a number of technology development programmes with the help of industries and socio-economic ministries. Efforts of the Department in this direction have helped in initiation of multi-institutional programmes in the emerging area of technology. As a part of this programme, projects were continued to be supported in the areas such as instrument development, advanced materials, critical technology, sugar technology, flyash utilisation, and advanced composites.

As per the provision of the Technology Policy Statement of 1983 and following the recommendations of the Technology Policy Implementation Committee, the Department has set up an autonomous body - Technology Information Forecasting and Assessment Council (TIFAC). The main objectives of TIFAC include generation of Technology Forecasting and Technology Assessment and Techno Market Survey (TMS) documents and enabling a Technology Information System. Technology Forecasting/Technology Assessment studies have been carried out in a number of areas such as sugar industry, steel, materials technology, human settlement planning, automated machinery and production systems, foundry modernisation, energy, high volume industrial gases, prospects for biotechnology products in India by 2000 AD in health and agricultural sector, fertilizers - a relook, and a comprehensive picture of Science and Technology status in India. So far, about 150

specialised reports have been brought out by TIFAC that include a 25 document series on Technology Vision 2020 and a 16 document series on Science and Technology in different sectors.

One of the important activities being pursued by TIFAC is the promotion of specific home grown technologies which is expected to strengthen the linkages between research institutions and industry by commercialisation of technologies developed indigenously. Under this activity, 10 projects have been completed so far and out of these four technologies have been transferred successfully. Another fifteen projects are in progress.

The Technology Vision 2020 reports brought out by TIFAC present a long-term technology forecast in the diverse areas such as agro-food processing, civil aviation, electric power, waterways, road transportation, food and agriculture, health care, life sciences and biotechnology, advanced sensors, engineering industries, materials and processing, services, strategic industries, electronics and communication, chemical process industries, telecommunication and driving forces-impedance.

A patent facilitating cell has been set up in TIFAC with the objectives of introducing patent information as a vital input in the process of promotion of R&D programmes, provide patenting facilities for scientists/technologists of the country on a sustained basis, keep a watch on developments in the areas of intellectual property rights, create awareness and understanding relating to patents and undertake studies and analysis of policy related to TRIPS agreement and other agreements under World Trade Organisation, etc. The cell organised 50 awareness workshops sensitizing about 5,000 scientists/technologists from more than hundred universities, hundred government R&D institutions and 125 industries. Seventy-one patent applications have been filed so far. Patent facilitating cell has also brought out two CD ROM databases namely EKASWA-A on patent applications filed in India and EKASWA-B on patents accepted and notified for opposition by the patent office. The two disks contain data from 1995. In addition, seven issues of IPR bulletin were also brought out.

TIFAC has joined hands with CMC Limited in view of their experience in information technology areas and the nation-wide network through Internet. TIFACLINE services are now available for online access from major cities like Bangalore, Delhi, Chennai, Hyderabad, Mumbai and Calcutta through CMC's INDONET. TIFAC and CMC have also created a new database on Technology Sourcing Worldwide. The database currently has 4,400 records on technologies ready for transfer/acquisition from various countries across the world. International linkages have been established by TIFAC with ASEAN, WAITRO and IATAFI. In addition, TIFAC regularly interacts with industry associations such as CII, ASSOCHAM, FICCI on various issues.

To promote innovation among entrepreneurs, a new golden jubilee initiative called "Technopreneur Promotion Programme (TePP)" has been

initiated. The main thrust of TePP will be to tap the vast untapped innovative potential of the Indian innovators. The support is supposed to be provided to projects of individual innovators towards scaling-up the idea/ invention/ know-how/designs to working models/prototypes/pilot plants. Besides the financial support, the endeavour would be to link and couple them to the most appropriate existing R&D facilities and expertise; assist them in patent search/filing of patents; interface for tying-up with financial institutions for commercial exploitation, etc.

The Department of Science and Technology under its scheme on "Drugs and Pharmaceuticals Research" supports collaborative Research and Development projects jointly submitted by drug companies and the academic national R&D institutes. The programme aims towards the development of new drugs and cleaner process technologies for known drugs/key intermediates for drugs. The programme covers all systems of medicine - Allopathic, Ayurvedic, Homeopathic and Unani.

TECHNOLOGY DEVELOPMENT BOARD

The Technology Development Board was constituted in September 1996. The Board provides financial assistance to industrial concerns and other agencies for attempting development and commercial application of indigenous technology or adapting imported technology for wider domestic application. Since its formation, the Board has signed 55 agreements with 43 commercial enterprises and two agencies spread over 11 States. The total project cost is of Rs 639.99 crore against which the Board had committed Rs 249.06 crore financial assistance. The areas that got financial assistance from the Board were health and medicine, engineering and electronics, chemicals and lubricants, agriculture and biotechnology, power cable, transport, energy and waste utilisation, and telecommunication.

NATIONAL ACCREDITATION BOARD FOR TESTING AND CALIBRATION LABORATORIES

National Accreditation Board for Testing and Calibration Laboratories (NABL) has been registered as a society on 12 August 1998 under Societies Registration Act. NABL continued its activity of according accreditation to testing and calibration laboratories after thorough assessment by the experts. Till date, 186 testing laboratories and 87 calibration laboratories have been accredited by the Board and assessment work has been completed for 145 testing laboratories and 75 calibration laboratories. The Board has been publishing a quarterly newsletter *NABL NEWS*.

SCIENCE & TECHNOLOGY PROGRAMMES FOR SOCIO-ECONOMIC DEVELOPMENT

The Department of Science and Technology is also devoted to evolving and implementing specific programmes to promote applications of S & T to improve the quality of life especially for the disadvantaged sections of the society. The areas in which significant achievements have been made are:

Technology Parks for women; low cost housing and sanitation; integrated land water and cover management; eco-restoration and sustainable use of biomass in the hilly region; artisanal pottery; artisanal blacksmithy; artisanal leather tanning; training of agricultural labour (SC youth) in the use of modern agricultural appliances for improved agricultural productivity; farm oriented low-cost technology for utilisation of *Azolla* as biofertilizer; developing livelihood base for tribals in Melghat region through watershed development, etc.

National Science and Technology Entrepreneurship Development Board (NSTEDB) established in January 1982 has been implementing several schemes and programmes on promotion of entrepreneurship and creation of sustainable employment through the application of S&T. About 19,432 S&T persons have been trained under Entrepreneurship Development Programmes (EDPs) organised by the Board of which 4,371 persons have set up their own ventures. The Board has also been organising skill development programmes in various trades. So far about 72,000 persons have been trained and provided with sustainable job/self-employment opportunities.

Science & Technology Entrepreneurship Parks have been set up in and around 15 different S & T institutions in the country in order to provide facilities to existing as well as start-up entrepreneurs on technology development, testing and calibration, documentation and computation, training, etc. Entrepreneurship Development Cells (EDCs) have been established in academic institutions for creating facilities for the promotion of entrepreneurship and other avenues of self/wage employment among qualified S&T personnel. Projects under Science & Technology Entrepreneurship Development Scheme (STEDS) are in operation in eight backward districts. For those unable to join regular Entrepreneurship Development Programmes (EDPs), Open Learning Programmes in Entrepreneurship (OLPE) was initiated in 1994-95 in collaboration with Entrepreneurship Development Institute of India (EDII), Ahmedabad.

NATURAL RESOURCES DATA MANAGEMENT SYSTEMS

The Natural Resources Data Management programme is being implemented to upgrade the existing data management methodologies at the district level to facilitate decision-making process with regard to local area management and development. Launched in 1982-83, the programme involves several R&D institutes of national repute, universities and non-governmental agencies in a consortium mode.

STATE S & T COUNCILS

The Department of Science and Technology has been operating a scheme entitled 'Assistance for Development of State Councils on Science and Technology since 1980. The main objective of the scheme is to assist the States and Union Territories in setting up State Councils on Science & Technology which in turn could help the states in formulation, planning, coordination and

promotion of S&T activities within their areas. The State Councils on Science & Technology have been set up in all States and UTs.

SCIENCE COMMUNICATION AND POPULARISATION

National Council for Science and Technology Communication (NCSTC), ever since its inception some 15 years ago, has been engaged in science and technology communication/popularisation and inculcation of scientific temper among the people. The emphasis has been on the development, adaptation, promotion and use of different communication technologies and techniques utilising various media-traditional and non-traditional. The activities undertaken centered around few natural phenomena and specific events utilising these for S and T communication.

The National Children's Science Congress is an important activity involving children in the age group of 10-17 years from all over the country. The programme is envisaged to encourage the students to relate the learning of science to the environment around, to their immediate social and physical environment and provide them a forum to interact with scientists to quench their curiosity and thirst for creativity. In this programme, children in teams of five each on an average, take up scientific projects related to the local issues, work under the guidance of teachers/science activists, and report their findings at school/block, district, state and national level congress. The 1999 National Children's Science Congress was organised at Goa.

In an attempt to make science learning a joyful experience, a hands on activity-based module related to middle-school science curriculum has been developed. Also, to involve people in science popularisation and inculcate a scientific outlook among them, the organisation of *Vigyan Jathas* continued to be supported. *Kudratnama* - a 27 episode TV serial based on National Science Quiz was telecast on STAR PLUS. Another TV Serial on science for common man titled *Vigyan ki Rahein* produced by NCSTC was telecast by Doordarshan.

VIGYAN PRASAR

Vigyan Prasara was established in 1989 to take up large-scale science popularisation programmes. Efforts are underway to put together a network of Science Clubs for spreading scientific awareness and promoting use of scientific methodology. A CD-ROM on Eclipses is being developed to mark the last solar eclipse of the century. *Vigyan Prasara* launched a monthly newsletter *DREAM 2047*, focusing on *Vigyan Prasara* activities and programmes. *Vigyan Prasara* Network (VIPNET) is networking and weaving together science clubs, societies, organisations that are already established, functioning actively or are going to be formed.

S AND T RESOURCES INFORMATION

The Department of Science and Technology makes available on a continuous basis information on manpower and financial resources devoted to science

and technology activities. The latest directory of R&D institutions in India covers 2,900 R&D institutions under Central government, State governments, in-house R&D units of public sector and private sector industries, universities including deemed universities and institutes of national importance, and scientific and industrial organisations in the private sector.

INTERNATIONAL CO-OPERATION

International Science and Technology cooperation is realised at three levels, viz., bilateral cooperation with developed and developing countries, regional cooperation such as with SAARC, ASEAN and BIMST countries; and multilateral cooperation through NAM S&T Centre, COSTED, UNESCO, etc. India has got bilateral science and technology cooperation with 53 countries of the world including France, Japan, Russia, etc. In addition to ongoing programmes of science and technology cooperation with developed as well as developing countries, new inter- governmental agreements of cooperation were concluded with Portugal and Malaysia. A joint meeting to discuss new India-EU S&T initiatives was held in Brussels. Discussions were held on the S&T areas of common interests and content of the possible India-EU S&T Agreement as well as continued participation of India in Fifth EU Framework Programme 1998-2000 related to EUs participation with developing countries.

METEOROLOGICAL SERVICES

The India Meteorological Department (IMD) was established in 1875. It is the National Meteorological Service and the principal government agency in all matters relating to meteorology, seismology and allied subjects. The Department has units all over the country engaged in collecting meteorological, and seismological data besides providing various meteorological services. Its main objective is to provide meteorological information for weather sensitive activities like aviation, shipping, agriculture, irrigation, off-shore oil exploration and industries. The Department also issues warnings against severe weather phenomena like cyclones, dust-storms, heavy rains, cold and heat waves that cause destruction of life and property. Besides, it also provides climatological information, records earthquakes and promotes research in meteorology. The Department maintains an extensive, network of modern observatories and communication links all over the country.

INSAT Meteorological Data Processing System is being upgraded to handle reception, processing of data from INSAT 2E Satellite.

National Seismological Database Centre (NSDC) has been established at IMD, New Delhi for collection, analysis and archival of earthquake data. Under modernisation of seismological observatories in peninsular region, 10 seismological observatories are being upgraded by installing Digital Broad Band Seismograph Systems.

India Meteorological department continues to participate in multi-disciplinary scientific cruises of Ocean Research Vessel in the Arabian Sea, Bay of Bengal and Indian Ocean, etc., during pre-monsoon, monsoon, and

post-monsoon periods. These cruises are planned to collect meteorological data over the adjoining sea areas for the study of various aspects of monsoon circulation and other important weather systems affecting the country and also to validate satellite data of meteorological parameters on board the Indian Remote Sensing Satellite (IRS P3) as and when required. A faster humidity sensor for use in Radiosonde, namely Carbon Hygrister was developed indigenously in IMD. It has been field tested and introduced operationally at one upper air station with a plan to use it in the whole network.

The first operational Long Range Forecast of seasonal monsoon rainfall (June-September) of India was issued by IMD in 1986. The operational forecasts have since then been issued every year using 16 parameter Power Regression and Parametric Model, Dynamic Stochastic Transfer (DST) and Multiple Regression Model.

The Crop Yield Formulation Unit of the Department has developed statistical models using correlation and regression techniques to forecast crop yield on operational basis for 26 sub-divisional growing *Kharif* rice and for 16 sub-divisions growing wheat. Based on these models, pro-harvest monthly crop yield forecast for *Kharif* rice are being prepared for every year from August to December and for wheat from January to May.

IMD has also installed 250 Cyclone Warning Dissemination Systems (CWDS). This is unique in the world and helps in direct broadcast of Cyclone warning to the public in general and coastal authorities in particular. IMD publishes its quarterly journal *Mausam*, annual publications of Indian Astronomical, Ephemeris, *Rashtriya Panchang* in 13 languages and Sunrise, Sunset, Moonrise and Moonset tables are brought out by the Positional Astronomy Centre, Calcutta.

National Centre for Medium Range Weather Forecasting (NCMRWF) with Cray X-MP/216-based supercomputing facility as basic infrastructure was set up in 1988. The prime objective of the Centre is to develop medium range (three to ten days in advance) weather forecasting capability, and preparation and dissemination of agrometeorological advisories to the farmers from 127 stations located one in each agro-climatological zones in the country.

Crop Simulation Models, CERES-Wheat was calibrated at eight locations from wheat growing regions of India for different cultivators, CERES-Rice at Hyderabad and Coimbatore and CROGPRO-Soybean for cv *Caurav* (JS7244) in Madhya Pradesh. The calibrated crop models of CERES- Rice, CERES-Wheat, and CROGPRO-Soybean along with database from AAS Units and analysis software were integrated into Decision Support System for Agro-Technology Transfer (DSSAT) and were transferred to the concerned field units for use in preparation of Agro-Meteorological Advisories.

SURVEY OF INDIA

Survey of India (SOI), the National Survey and Mapping Organisation under the Ministry of Science & Technology fulfils the evergrowing demand of vast variety of maps of the country. Primary responsibility of SOI is to maintain

topographical map coverage on 1:250 K, 1:50K and 1:25 K scales. Topographical map coverage on 1:250 K and 1:50 K scales covering the entire country have been completed and the map sheets are being revised at regular intervals to depict latest spatial information. Surveys on 1:250 K scale are being taken up as national requirements keeping in view the priorities indicated by the Central/State Governments and other user agencies. It has also been called upon extensively to deploy its expertise in the field of geodetic & geophysical surveys, study of seismicity and seismotectonics, glaciology, participation in Indian scientific expedition to Antarctica and projects related to digital cartography and digital photogrammetry, etc., to provide basic data for Science & Technology requirement. SOI has started creation of Digital Cartographic Data Base of topographical maps on 1:25 K, 1:50 K and 1:250 K scales. The digital data is being used by various agencies for planning and GIS applications. It also undertakes large-scale surveys for various development projects including hydro-electric, irrigation, command area, canal area, cantonment area schemes, etc.

The Department is responsible for fixing the external boundary of India, its depiction on maps published in the country and also advise on the demarcation of inter-State boundaries. Coastal mapping has also been undertaken in a phased manner to study the effect of submergence due to rise in sea-level and other natural phenomena including cyclones, storm surges.

Survey of India also provides support to neighbouring countries in the field of survey education, transfer of technology and various other surveying technologies under bilateral programmes.

A Geomatics Centre has been planned at Delhi to meet the requirement of geomatics, viz., regional and urban planning, resource management, infrastructure development, environmental monitoring, agriculture, irrigation, soil conservation, forestry, railways, airways, inland water transport, mineral resources, etc.

In recent years Survey of India has been involved in various inter-disciplinary scientific projects like study of sea-level variations, modernisation and computerisation of cadastral surveys records, monitoring of glacier movement, post-earthquake studies in continental shelf and Himalayan region, etc.

A map awareness drive has been launched by Survey of India to bring attractive maps in convenient size and at reasonable price, on various themes, viz., Antique Map Series, Discover India Series, State Map Series, District Planning Map Series, Tourist Map Series, Trekking Map series, etc. Survey Training Institute, Hyderabad established under UNDP assistance is a premier institution for training in various disciplines of surveying to the trainees sponsored by the department, other State/Central Government organisations and neighbouring countries.

NATIONAL ATLAS AND THEMATIC MAPPING ORGANISATION

While Survey of India meets the national needs in cartography, some specialised thematic maps required to meet the needs of the specific users are taken care of by the National Atlas and Thematic Mapping Organisation (NATMO), operating under the Department.

AUTONOMOUS SCIENTIFIC INSTITUTIONS

The Department of Science and Technology provides grants-in-aid to the following autonomous scientific research institutions engaged in frontier areas of research in basic and applied sciences: (i) Agharkar Research Institute, Pune—research in basic and applied aspects in the fields of biological sciences; (ii) Shri Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram—developing biomedical engineering and technology, providing and demonstrating high standards of patient care in advanced medical specialities and developing postgraduate training programme of the highest quality in these fields; (iii) Indian Association for the Cultivation of Sciences, Calcutta—studies on solid state physics, material sciences, theoretical physics, spectroscopy, energy research, chemistry including biological chemistry, polymer science, etc.; (iv) Indian Institute of Tropical Meteorology, Pune—functions as a national centre for basic and applied research in tropical meteorology; (v) Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore—research in frontier areas of chemistry, physics of materials, computational fluid dynamics geodynamics, condensed matter theory, animal behaviour, genetics, etc.; (vi) Raman Research Institute, Bangalore—research in basic sciences such as astronomy, astrophysics, liquid crystals, etc; (vii) Indian Institute of Geomagnetism, Mumbai—observing and understanding some of physical processes taking place in the innermost crusts of the earth as well as phenomena occurring on the sun and in near earth and interplanetary space; (viii) Wadia Institute of Himalayan Geology, Dehra Dun—basic research in areas of biostratigraphy, petrology and geochemistry, sedimentology, tectonics and environmental geology to understand the geodynamics of the Himalayan region, and (ix) International Advanced Research Centre for Powder Metallurgy and New Materials, Hyderabad—the development of high performance materials, and processes.

DST also extends financial and administrative support to the following academies and professional bodies which are engaged in the promotion of S and T in the country through the involvement of scientists and engineers: (i) Indian Academy of Sciences, Bangalore; (ii) Indian National Science Academy; New Delhi, (iii) Indian National Academy of Engineering; New Delhi; (iv) National Academy of Science, Allahabad and (v) Indian Science Congress Association, Calcutta.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH

The Department of Scientific and Industrial Research (DSIR), a department under the Ministry of Science and Technology comprises of the activities of

the Council of Scientific and Industrial Research (CSIR), four departmental schemes, viz., Research and Development by Industry (RDI), Programme Aimed at Technological Self-Reliance (PATSER), Scheme to Enhance the Efficacy of Transfer of Technology (SEETOT) and National Information System for Science and Technology (NISSAT) and two public enterprises, viz., National Research Development Corporation (NRDC) and Central Electronics Limited (CEL).

RESEARCH AND DEVELOPMENT BY INDUSTRY

A strong S and T infrastructure has been established in the country. This covers a chain of national laboratories, specialised centres, various R&D and academic institutions and training centres. The Department of Scientific and Industrial Research is the nodal department for granting recognition to in-house Research and Development centres. There were 1,207 units having valid recognition as on 31 December 1999. During 1999, 61 in-house R&D centres were accorded fresh recognition, 230 centres were accorded renewal of recognition. Thirteen National Conferences on in-house R&D in industry were organised. National Awards were presented to six industrial units and an exhibition depicting the developments of 21 in-house R&D centres was held.

Under the DSIR scheme of granting recognition to Scientific and Industrial Research Organisations (SIROs), scientific research foundations in the area of medical, agriculture, natural and applied sciences and social sciences seek DSIR approval. SIROs approved by DSIR are eligible for availing customs duty exemption on import of equipment and consumables/material, and excise duty exemption on the purchase of essential scientific and technical instruments, apparatus, equipments (including computers), accessories and spare parts thereof and consumables required for research and development activities and programmes.

PROGRAMME AIMED AT TECHNOLOGICAL SELF RELIANCE

Under the Programme Aimed at Technological Self Reliance (PATSER), the Department has so far supported nearly 100 R&D projects of Industrial units. These projects cover products and processes in various important industries such as metallurgy, electrical, electronics, instrumentation, mechanical engineering, earth moving and industrial machinery, chemicals and explosives.

SCHEME TO ENHANCE THE EFFICACY OF TRANSFER OF TECHNOLOGY

The Scheme to Enhance the Efficacy of Transfer of Technology (SEETOT) covers National Register of Foreign Collaborations (NRFC); Transfer and Trading in Technology (TATT); and Promotion and Support to Consultancy Services (PSCS).

The objectives of NRFC scheme is to gainfully facilitate acquisition of technology needed in the country.

The TATT scheme aims to promote and support activities towards export

of technologies, projects and services. The activities carried out during 1999-2000 include: setting up of a Technology Exports Pavilion at India International Trade Fair, 1999 (IITF'99), New Delhi; supporting participation of R&D laboratories in INDIA TECH-2000 at Colombo; and setting up of a "Technology Exports Promotion Cell" in CII, etc.

The scheme relating to Promotion and Support to Consultancy Services (PSCS) essentially aims to strengthen consultancy capabilities for domestic and export markets. Its main activities during 1999-2000 have been towards setting up of design and engineering service centre for Food Processing Industry at Kanpur and a Consultancy Clinic for Textile Industry at Bhilwara.

NATIONAL INFORMATION SYSTEM FOR SCIENCE AND TECHNOLOGY

The National Information System for Science and Technology (NISSAT) promotes and supports the development of a compatible set of information systems on science and technology and inter-links these into a network. The approach adopted is to bring the existing centres, systems and services to a higher level of operation so that the interests of the national community of information users could be better served.

NATIONAL RESEARCH DEVELOPMENT CORPORATION

National Research Development Corporation (NRDC) is the principal organisation established for transferring technologies from R&D laboratories to industry. Its operations cover the entire spectrum of industrial technologies ranging from chemicals to metallurgy, mechanical engineering, electrical engineering, electronics, biotechnology, etc. Some of the major technologies licensed by the Corporation during 1999-2000 include: Bakery margarine; Glucose bio-sensor; Nano-size stabilised zirconia production; Vanadium Penta-oxide; Spirulina algae; Preparation of Katha from Gambier; Defatting of groundnut without losing shape; 777 Oil for treatment of psoriasis; Test Kit for microbiological quality of drinking water; and Bio-degradable plastic.

CENTRAL ELECTRONICS LIMITED

Central Electronics Limited (CEL) has been the pioneer in the country in the areas of solar photovoltaics, ferrites and piezo-ceramics. Today, it enjoys international status among the top producers of single crystalline silicon solar cells in the world. Its activities are sharply focussed in three thrust areas: (i) solar photovoltaic cells, modules and systems for a variety of application; (ii) selected electronics systems - equipment for railway signalling and safety, cathodics protection equipment for oil pipelines, switching systems and VSATs, and (iii) selected electronic components-professional (soft) ferrites, electronic ceramics, piezo electric elements and microwave components.

COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH

The Council of Scientific and Industrial Research (CSIR) was constituted as an autonomous society in 1942. It has an all-encompassing charter which includes promotion, guidance and coordination of scientific and industrial

research, funding of laboratories and exploitation of research results for industrial development. It is also charged with rendering assistance to extramural research. CSIR has over the years established a network of 40 laboratories and 80 field/extension centres spread all over the country. The laboratories conduct R&D in a wide range of fields—from micro electronics to metallurgy, medicinal plants to industrial machinery, chemicals to molecular biology, besides commodities like glass, ceramics and leather. Areas of particular strength in CSIR which have won global recognition for excellence are: aerospace engineering, drugs and pharmaceuticals, bio-science and bio-technology, chemicals (catalysts and polymers), petroleum (refining and petrochemicals), materials (composites), leather (processing, chemicals and product design), geophysics and radiophysics. CSIR is today among the largest chains of public funded industrial research laboratories in the world.

The CSIR family is 22,000 strong, including 5,300 scientists, 60 per cent of whom hold Ph.D. or M.Tech degrees. The annual budget of CSIR is around Rs 800 crore with the Government providing 75 per cent of it as grant and CSIR generating the rest from contract R&D licensing of its technologies, provision of technical services and consultancy. CSIR has made a commercial beginning in the global knowledge-place and earns around US \$ 3 million through contract R&D. The estimated industrial production based on CSIR knowhow in 1999-2000 was Rs 4,500 crore. Over the years, CSIR has developed more than 4,000 technologies, 80 per cent of which are eminently suitable for adoption by small scale industry. CSIR filed around 340 patent applications in India and 200 abroad. It spearheads the intellectual property movement in the country and has shown the way with its famous opposition of the US patent on turmeric (*Haldi*). Till date CSIR has awarded about 50,000 research fellowships/associateships and supported about 10,000 bright young scientists. About 450 outstanding superannuated scientists have been provided financial assistance to make use of their talent and experience for the advancement of science. CSIR has instituted a unique scheme 'CSIR programme on Youth for Leadership in Science (CPYLS) in 1998-99 under which top fifty students at the secondary school examination (X Class) CBSE and State Boards are invited to visit nearest CSIR laboratories/institutes at CSIR cost for two days.

CSIR is a world class source of technology and technology services for the Indian industry. The range of technological services and support includes resource surveys, problem diagnostics, testing, calibration and certification and manpower training. CSIR has contributed significantly to the dissemination of scientific research results and spread of scientific temper and a culture of creativity in the country. Two separate institutes are devoted to science publication and communication - National Institute of Science Communication (NISCOM) and Indian National Scientific Documentation Centre (INSDOC) both at New Delhi.

ACHIEVEMENTS

Some of the outstanding CSIR products, that closely influence the people's life in India, are the first ever all indigenous low horse power (20 hp) *Swaraj* tractor and *Amul* Baby Food based on buffalo milk, laying the foundation for indigenous baby food industry. There is also a whole range of technical, industrial products worth mentioning. For instance, the all-composite, indigenous, two-seater trainer aircraft *Hansa* made history when its flight figured among the trinity of technological feats on 11 May 1998; the prototype multirole light transport aircraft *Saras* will be ready soon and the parallel super computer *Flosolver* MK3, developed by National Aerospace Laboratories, Bangalore in the league of the very best in the world which can be used for supercomputing needs in such diverse disciplines as monsoon dynamics, structural mechanics, image processing and cryptography.

CSIR has played a crucial role in the transformation of several industrial and other sectors in India like: (1) Chemical industry : CSIR has made global breakthroughs in some areas while in some other areas it has enabled India to break the MNC monopoly/oligopoly; (a) Agrochemicals: About one-fourth of the technical grade pesticide production in India is based on CSIR technology. CSIR has developed target specific pesticides, controlled release formulations and biological methods of pest control for cotton and sweet potato, as also neem based insect antifeedant; (b) Petroleum and petrochemicals: CSIR's wide-ranging important contributions include technologies for aromatics (BTX) extraction; food grade hexane; adipic acid (single-step process); visbreaking of petroleum residues; zeolite catalysts (xylofining, hydrodewaxing); Pt-Rereforming catalyst; the industrial production from CSIR technologies in this sector is around Rs 1,500 crore annually; (c) Industrial catalysts: CSIR has provided the industry knowhow for several known and a few new catalysts; (2) Drugs and Pharmaceuticals Industry: CSIR has contributed novel process routes for at least 30 generic drugs. India has to its credit development of 14 new drugs since Independence, 11 of these have come from CSIR. The latest addition to these drugs is the aablaqin : an antirelapse antimalarial drug from CDRI; (3) Leather Industry: CSIR has provided the industry with world class environmental friendly technologies for the entire range of technical activities from curing, dehairing, tanning and finishing to process automation and modernisation of tannery operations and product design including special leathers. With a view to enhancing the quality and quantum of production CSIR has mounted a Technology Mission for the sustainable development of the leather industry; (4) Coal Industry: CSIR's pioneering work on coal enabled preparation of flow-sheets and specifications for all the washeries that have been set up in the country since 1958; (5) Rural Industries: CSIR has promoted and provided technologies suited to local resource endowments for : low cost housing, semi-mechanised brick making, construction of rural roads, sanitation, drinking water, fire resistant thatched roofs, grain and water storage bins, iodine detection kits, cultivation of medicinal and aromatic plants and extraction of essential oils;

(6) Advancement of Knowledge: CSIR has made notable contributions to basic science in several areas. For example (a) Precocious flowering of bamboo, developed by National Chemical Laboratory, Pune, drastically cutting down the natural flowering period of 15 years to a few weeks; (b) Pioneering surveys for and grabbing polymetallic sea nodules in the Indian Ocean bed which conferred on India the first Pioneer Investor status country in the world under the UN Law of the Sea; (c) Cholera: Studies at the genetic level, have led to the development of two candidate vaccines undergoing trial. In a different approach, the combined genetic and physical map of the whole *V. cholerae* genome has been constructed and reported for the first time in the world; (d) Kala azar: Understanding basic biology of the parasite, and developing diagnosis and treatment of visceral leishmania; (e) Cataract: Understanding the modifications that occur in the crystalline proteins constituting the human eye lens during ageing; (f) Salt sensitive expression vector to clone and express six divergent genes; (g) Pioneering studies on near space environment ionospheric chemistry, stratosphere-mesosphere coupling and (h) Foundation technology to build on black cotton soil, which opened up hitherto difficult areas of such soil (e.g. in Gujarat and Maharashtra) to construction activities; (7) Resource Exploration : CSIR has helped locate new/additional natural resources e.g., coal, delineation of structures for hydrocarbons, gas hydrates, new deposits of gold, diamonds and minerals; polymetallic sea nodules rich in manganese and copper; sources of ground water, etc., (8) Environment and Ecology: Through its NEERI, Nagpur CSIR has been at the forefront for environmental systems design and modelling, environmental monitoring and environmental biotechnology. Two most recent technologies developed by CSIR have made sterling contributions to reducing the level of pollution in the vicinity of the Taj Mahal viz., (a) cokeless cupola using gaseous fuel to reduce pollution from Agra foundries; and (b) chemo-biochemical desulphurisation of tail gases of Mathura Refinery.

ATOMIC ENERGY

The Department of Atomic Energy (DAE) is a broad-based multidisciplinary organisation engaged in basic & applied research, development of technology and its applications to industry. Its main mandate is the production of safe and economical nuclear power, using indigenous uranium and thorium resources. It builds research reactors for the production of radioisotopes and carries out programmes on isotope and radiation technology applications in medicine, agriculture and industry. It carries out advanced work in hitech areas such as accelerators, lasers, super computers, advanced materials and instrumentation, and also encourages technology transfers to other users and industry. It supports basic research in nuclear energy and related frontier areas of science, interacts with universities and academic institutions and supports research and development projects having a bearing on DAE's programmes. It contributes to national security. It encourages international cooperation in related advanced areas of research.

Today DAE has under its aegis **five Research Centres**, viz., the Bhabha

Atomic Research Centre (BARC)- Mumbai, Indira Gandhi Centre for Atomic Research (IGCAR)-Kalpakkam (Tamil Nadu), Centre for Advanced Technology (CAT)- Indore, Variable Energy Cyclotron Centre (VECC)-Calcutta, and Atomic Minerals Directorate for Exploration & Research (AMD)- Hyderabad; **three Industrial Organisations** viz., Heavy Water Board (HWB)-Mumbai, Nuclear Fuel Complex (NFC)- Hyderabad and Board of Radiation & Isotope Technology (BRTT)-Mumbai; **four Public Sector Undertakings** viz., Nuclear Power Corporation of India Limited (NPCIL)-Mumbai, Uranium Corporation of India Limited (UCIL)-Jaduguda (Bihar), Indian Rare Earth Limited (IRE)-Mumbai, and Electronics Corporation of India Limited (ECIL)-Hyderabad; and **four service organisations**, viz., Directorate of Purchase & Stores (DPS)-Mumbai, Construction, Services & Estate Management Group (CS&EMG)-Mumbai, General Services Organisation (GSO)-Kalpakkam and Atomic Energy Education Society (AEES)-Mumbai.

DAE also financially supports seven autonomous national institutes, viz., Tata Institute of Fundamental Research (TIFR)- Mumbai, Tata Memorial Centre (TMC)-Mumbai, Saha Institute of Nuclear Physics (SINP)-Calcutta, Institute of Physics (IOP)-Bhubaneswar, Mehta Research Institute of Mathematics & Mathematical Physics (MRI)-Allahabad, Institute of Mathematical Sciences (IMSc)-Chennai, and the Institute for Plasma Research (IPR)-Ahmedabad. The Atomic Energy Education Society managing DAE schools and colleges at various sites, also gets financial support from the Department.

DAE, through the Board of Research in Nuclear Sciences (BRNS) and the National Board for Higher Mathematics (NBHM) promotes research in nuclear and allied fields, and mathematics respectively.

NUCLEAR POWER PROGRAMME

The Nuclear Power Programme of DAE envisages building of pressurised heavy water reactors, fast breeder reactors and thorium based reactors on commercial scale, and also includes technology development relating to operation and maintenance of the reactors, waste management, safety and environment monitoring. Today India has 12 nuclear power reactors in commercial operation. The designs of its new reactors have progressively evolved to incorporate advanced features to further improve safety, reliability and economics. It has successfully developed the technologies for in-service inspection, maintenance and refurbishment of the older plants.

Although the pressurised heavy water reactor (PHWR) was chosen as the reactor for the first stage of the Indian Nuclear Power Programme, but to gain operational experience, an atomic power station was initially set up at Tarapur (Maharashtra). The station comprised two boiling water reactors, which became operational in 1969. These reactors are still running and are in good condition.

The research and development and support of the industrial infrastructure

in the country further led to the standardisation and improvement in the design of the 220 megawatt(e) PHWR. Based on this design, two reactors were set up at Narora (Uttar Pradesh) which commenced operations in 1989 and 1991. Later, two more atomic power reactors, also of 220 megawatt(e) capacity each, were commissioned at Kakrapar (Gujarat), in 1992 and 1995. With this, the indigenous technology of pressurised heavy water reactors reached commercial maturity.

The Nuclear Power Corporation of India Limited (NPCIL) is also setting up two state-of-the-art 220-megawatt (e) PHWRs each at Kaiga (Karnataka) and Rawatbhata (Rajasthan), and two 500-megawatt (e) PHWRs at Tarapur. This year two power reactors, one each at Kaiga and Rawatbhata have started commercial operations.

India's growing experience in nuclear technology has resulted in improving performance of its nuclear power plants. During 1999-2000, the gross electricity generation crossed 12,000 million units, and the average capacity factor of the plants, which was 60 per cent in 1995-96, touched a new high of 80 per cent. NPCIL not only achieved a turn around in its financial performance, but also paid Rs 61.48 crore as dividend to the Government for the fiscal 1999-2000.

The 2000 MW(e) Kudankulam Atomic Power Project and the 440 MW(e) Kaiga Atomic Power Project -3&4 are the new projects of NPCIL. Today India has demonstrated its capability to design, build, operate and maintain nuclear power plants, manufacture all associated equipment and components, and produce the required nuclear fuel and special materials.

FAST BREEDER PROGRAMME

The studies with regard to the content of the Fast Breeder Reactor (FBR) programme and type of test reactor to be built were undertaken in the early sixties. The construction of Fast Breeder Test Reactor (FBTR) was started in 1972 and completed in 1984.

As a logical follow-up of FBTR, it was decided to build a prototype fast breeder reactor (PFBR). The detailed design work was taken up at the Indira Gandhi Centre for Atomic Research. The 500 MWe Prototype Fast Breeder Reactor has been designed and the technology development is in progress in collaboration with Indian Industry. The construction of PFBR is scheduled to start in the last year of the Ninth Plan.

THORIUM UTILISATION

The research endeavour leading to the third stage of the Indian Nuclear Power Programme, which envisages use of thorium for power generation, has already begun. When irradiated, thorium gets converted to a nuclear fuel uranium-233. The technologies relating to the production of uranium-233 (a nuclear fuel), have been established, along with the facilities for separation of uranium-233 from irradiated thorium. Thorium fuel bundles have been

R&D SUPPORT TO NUCLEAR POWER

The programmes relating to Nuclear Power and the Nuclear Fuel Cycle have been built based on the results obtained from the multidisciplinary R&D infrastructure set up by the Department over the years. The R&D work carried out in the area of reactor technology has accelerated the process of indigenisation of equipment and components and has led to the development of a number of technologies for operation and maintenance of power reactors.

NON-POWER PROGRAMME

DAE's research centres not only provide R&D support to the nuclear power programme but are also engaged in finding the applications of nuclear technology to the areas of medicine, agriculture, industry; in the development of high technology and multidisciplinary research in the frontier areas of sciences.

The radiation and isotope technology programme of DAE is oriented to meet the growing demand of radioisotopes and radiation technology in industries, health care services, agriculture and research. BARC has been producing radioisotopes for over four decades, and today the Centre is a leading manufacturer of radioisotopes in the world. Radioisotopes and related products are supplied to user agencies by BRIT.

During the year 1999-2000, BRIT supplied radioisotope products valued at Rs 21 crore, for use in industry, research, agriculture and health care and also exported radioisotope products and equipments valued at Rs 1.5 crore to various countries.

Research Reactors: The research reactor programme of DAE provides R&D support to nuclear power programme; produces radioisotopes, and provides facilities for basic and applied research.

Nuclear Agriculture: The nuclear agriculture programme of DAE covers production of high yielding and disease resistant seeds, fertilizer and pesticide related studies, radiation processing of food items and water management. Under the BARC's crop improvement programme, a number of improved high yielding varieties of pulses, oilseeds, rice and jute have been developed and are under cultivation.

The Government of India has approved radiation processing of various food items both for export and domestic consumption. A Demonstration Plant for Radiation Processing of Spices, set up by the Board of Radiation and Radioisotope Technology (BRIT) of DAE, has been operating since 1 January 2000 at Navi Mumbai.

A commercial demonstration plant POTON, for the treatment of potatoes and onions, is under construction by BARC at Lasalgaon (Maharashtra).

Desalination of Water : BARC has developed desalination technologies based on multi-stage flash (MSF) evaporation, reverse osmosis (RO) and low

temperature evaporation. Based on these processes, the Centre has developed desalination plants for rural areas, shipborne plants and for other uses. A 6300 cubic metre/day combined multi-stage-reverse osmosis (MSF-RO) Nuclear Desalination Demonstration Plant is being set up at Kalpakkam.

Nuclear Medicine : The radioisotopes produced in the research reactors at Trombay and accelerator at VECC are used for the manufacture of various radiopharmaceutical products for diagnosis and treatment. The organisations contributing to the medical segment of the Nuclear Programme are the BRIT, RMC—both at Mumbai, and the Regional Radiation Medicine Centre (RRMC), Calcutta.

Radioisotopes in Industry : The radioisotopes produced at Trombay are widely used by industry for nondestructive testing, fault diagnosis in chemical plant equipment using gamma scanning and many tracer applications. Cobalt-60 and iridium-192 radiography sources are being regularly supplied by BRIT for use in non-destructive testing. A large number of ROLI radiography equipments designed and developed by BRIT are in use in Indian industries.

HIGH TECHNOLOGY DEVELOPMENT

The research and development in the fields of high technologies are: Accelerators for nuclear research and industrial applications, Lasers for use in surgery and industry, Supercomputer systems using parallel processing techniques for fast computing, Giant Metrewave Radio Telescope (GMRT); Advanced remote handling and robotic devices and servo-manipulators for applications in industry; Scintigraphic techniques for organ imaging, sophisticated facilities for analysis and characterisation of ultra-pure materials and various electronic systems and equipment.

Accelerators : DAE has established full capability in the technology of particle accelerator. Accelerators are being used in nuclear research, isotope production and in radiation processing. The Variable Energy Cyclotron (VEC) at Calcutta, 14MV Pelletron Accelerator at Mumbai, and Synchrotron Radiation Sources (SRS) Indus-1 at Indore, Folded Tandem Ion Accelerator at Navi Mumbai are the major accelerator facilities in the country.

The Variable Energy Cyclotron (VEC), a national research facility set up by BARC in 1977 in Calcutta, provides protons, deuterons and alpha particle beams for research in nuclear fields and production of gallium radioisotope. Currently, the Centre is constructing a K500 Superconducting Cyclotron.

CAT is constructing Synchrotron Radiation Sources (SRS) comprising INDUS-1 & 2 at Indore, which will be a national facility for basic and applied research. BARC, has recently commissioned a Folded Tandem Ion Accelerator (FOTIA) at Trombay. The BARC-TIFR Pelletron Accelerator Facility at Mumbai has made an impact internationally in the field of nuclear research. Recently, at Brookhaven National Laboratory, USA, a particle detector

designed and developed by BARC, was commissioned for conducting frontline nuclear physics experiments.

Lasers : The DAE units engaged in the laser research and development programme are CAT and BARC.

Under its Laser Programme, CAT has developed laser technologies for applications in medicine, industry and research and development. Carbon dioxide lasers for surgery and power cutting of thick steel plates, laser based instruments for medical applications, surgery, endoscopic surgery and treatment of tuberculosis have been developed successfully. CAT has been working on the development of biomedical laser applications. The efforts have resulted into the development of nitrogen lasers for diagnosis of certain cancers and treatment of burn wounds. A number of lasers/instruments have been developed at CAT and supplied to users. The research facilities which have come up recently include a Pulsed Laser Deposition Facility for growing thin films of wide band gap semiconductors and the Facility for making ferroelectric oxide thin films.

Information Technology : BARC has been working on the development of supercomputers needed for handling number crunching jobs. The Centre has successfully developed a supercomputer consisting of sixteen Pentium-III nodes. This supercomputer has reached a sustained speed of 5 giga flops (floating points per second). One similar system has been operational at the Aeronautical Development Agency, Bangalore since May 2000 for computational fluid dynamics calculations related to Light Combat Aircraft.

Remote Handling and Robotics : Both at BARC and IGCAR, robotics is one of the major thrust area of R&D programme of DAE. The Bilateral Master Slave Servo Manipulators, manufactured under collaboration between BARC and HMT, Bangalore, have undergone field trials. A five-degree-of-freedom Robot for deployment in radioactive chemical laboratories, a six-degree-of-freedom Robot and a mobile Robot have been developed at Trombay. At IGCAR, for automation of nondestructive evaluation, various devices have been developed. These include a Mobile Scanner (MOBSCAN), a Remotely Operated Power Manipulator (ROPMAN) and a Decapping Robot for capping and decapping bottles.

Plasma Technology : Plasma-related technology has many industrial applications. BARC has completed a plasma-based aerosol generator and achieved plasma coatings of alumina on carbon steel moulds. The KALI-5000 pulse power system has reached an advanced stage of assembly at Trombay. The pulsed electron beam produced from the facility will be used for applications in high power microwave generation, pulsed intense neutron source, etc.

Cryogenics : CAT and VECC have successfully developed expertise in cryogenics. The closed cycle cryorefrigerator which can produce temperatures of the order of 6.5 Kelvin, is under development at CAT.

Astronomy Research Facility : In the field of radioastronomy, a giant radiotelescope was constructed in the Nilgiri Hills near Ootacamund, Tamil Nadu. The telescope used for decades for studies of distant extragalactic radio-sources and interplanetary objects, has extensively added to the knowledge domain of astronomy. Another astronomy-research facility GRACE was set up by BARC at Mt. Abu in 1997 and has been in regular use. Recently at Narayangaon, near Pune, a Giant Metre Wave Radio-Telescope (GMRT) with 30 gigantic parabolic dishes, became operational.

Instrumentation & Control : Research centres of DAE have been engaged in the development of sophisticated instruments components and subsystems for applications in the nuclear programme. The knowhow and the products developed at Trombay in the area of electronics led to the establishment of Electronics Corporation of India Limited (ECIL) at Hyderabad in 1967. ECIL had led the computer revolution in the country by developing the first digital computer belonging to the TDC series. ECIL has contributed substantially to the efforts of the Department of Telecom by providing countrywide SPC telex networks, message switching networks and maintenance systems for telephone exchanges. In the field of Strategic Electronics, ECIL has been providing technology solutions to the Armed Forces, in the areas of command, control, communications, computers & information/intelligence systems. In the 80's Air Defence Systems were supplied to the Indian Air Force. Fully Automated command and control systems and checkout systems for the missile programme of DRDO are provided by ECIL.

ECIL developed the Air Traffic Management system employing Global Positioning System and satellite data links. These are installed at Chennai and Calcutta Airports for use in the Civil Aviation Sector. The Company has been supplying HF, VHF and UHF radio communication equipment for the Defence Services.

ECIL has made a name for itself in the development and production of antenna systems for various applications in DoT, Space, Defence and private cellular networks.

Nuclear and thermal power plants, steel plants and other related process industries are equipped with control systems provided by ECIL. Supervisory control and data acquisition systems, programmable logic controllers, energy management systems, remote telemetry units, Oil & Gas pipe line monitoring systems all developed through in-house R&D, have contributed towards the nation building activity.

Recent developments at BARC include a microprocessor-based traction control system for retrofitting the WAG-5 series locomotives of the Indian Railways; setting up a Femto-Second Spectrometer and scaling up the Laboratory for Diamond Film Deposition.

A number of silicon-based detectors were fabricated at Trombay. Under the Physical Protection System Development Programme, BARC developed

a CCTV System with digital video storage facility, which finds applications in monitoring unattended vaults, strategic materials storage location and high security areas; a micro-controller based distress alarm system, and an Access Control System under real time operating system environment. Also, a computer controlled thermal Ionization Mass Spectrometer for use at KARP was completed, and an Inductively Coupled Plasma Source Mass Spectrometer (ICP-MS) built indigenously. Under the IAEA programme, BARC exported 81 ANUGAMI-S interface cards for gamma camera.

Seismology : For monitoring of seismicity, two Seismic Arrays have been functioning at Gauribidanur (Karnataka) and Delhi to acquire high-quality seismic data. BARC has developed and set up indigenously seismic monitoring systems.

POKHRAN TESTS

On 18 May 1974, India had conducted a peaceful underground nuclear experiment at Pokhran in Rajasthan desert. India successfully conducted five nuclear tests on 11 and 13 May 1998 at Pokhran. These included a thermonuclear device, a fission device and three sub-kiloton nuclear devices. Analysis of the measurements carried out at the time of the tests confirmed fully the initially declared yields and other design parameters for all the devices.

TECHNOLOGY SPIN-OFFS

The multidisciplinary research carried out in DAE's research centres, has helped not only in achieving self-reliance in the Nuclear Power Programme and associated Nuclear Fuel Cycle but also generated several products and technologies that have benefited industries. These include material and alloys, radioisotope based tools and techniques, tissue culture technology, lasers for surgery and industrial applications, electronic instruments and devices. The DAE organisations have also transferred technologies, provided consultancy in hitech areas and entered into collaborations.

PROMOTION OF RESEARCH IN NUCLEAR SCIENCES AND MATHEMATICS

For promotion of research in the frontier areas of nuclear science mathematics and cancer, DAE provides grants-in-aid to seven institutes of national eminence. The grants provided by the DAE during 1999-2000 is as follows : Tata Institute of Fundamental Research (Rs 85.95 crore), Tata Memorial Centre (Rs 68.50 crore), Saha Institute of Nuclear Physics (Rs 28 crore), Institute of Physics (Rs 6.4 crore), Mehta Research Institute of Mathematics & Mathematical Physics (Rs 5.43 crore), Institute of Mathematical Sciences (Rs 5.55 crore), and Institute for Plasma Research (Rs 30.80 crore).

The DAE also provided financial assistance to some of the leading cancer centres.

The Giant Metre-wave Radio-Telescope (GMRT) set up near Pune by

TIFR has become operational recently. To develop symbolic and numerical computation paradigm, TIFR has also set up at Pune a Laboratory of Computational Mathematics in collaboration with BARC. Saha Institute of Nuclear Physics, Calcutta's programmes of setting up a National Facility for High Current Isotope Separation and Ion Implantation, and Multi-element Gamma, Heavy-Ion and Neutron Array Detectors (Meghnad) are making progress.

The Institute of Plasma Research, Ahmedabad has been working on the development of Steady State Super Conducting Tokamak-I (SST-1).

DAE-University-National Laboratories Interaction: The DAE organisations have been augmenting scientific capability of the nation through their linkages with academic institutions and national laboratories. Some new initiatives in this regard included BARC's collaboration with the Agricultural Universities in Maharashtra and Large Scale component Test Work continuing at institutions such as the Structural Engineering Research Centre, Chennai. Taking shape at IIT-Bombay is the BARC's joint activity on thermal hydraulics studies related to Advanced Heavy Water Reactor (AHWR).

DAE, through the Board of Research and Nuclear Sciences (BRNS) and the National Board of Higher Mathematics (NBHM) both at Mumbai, promotes activities including research in nuclear sciences and mathematics respectively at universities and other academic institutions. NBHM also participates in the International Mathematical Olympiad.

Board of Research in Nuclear Sciences (BRNS) has been sponsoring research in universities and institutes. During the past few years, BRNS have sponsored many research projects in the national laboratories as well. Research centres of DAE have signed MoUs with National Institutes, Universities and others for research collaborations. During 1999-2000, BRNS approved financial assistance to 83 new projects and renewed 128 ongoing projects. BRNS has also approved setting up of a Centre for Formal Design and Verification of Software at IIT-Bombay, a National Centre for Fast Reaction Kinetics at the University of Pune, and Loss of Coolant Accident (LOCA) Environment simulation and Aging Test Facility for large components at ERDA, Vadodara. BRNS also offers Young Scientist Project Awards, Dr K. S. Krishnan Research Associateship and Homi Bhabha Chairs for distinguished scientists.

HUMAN RESOURCE DEVELOPMENT

The endeavour of DAE in nurturing nuclear technology covers high-quality training programme for its scientists/engineers; programme under the Inter-University Consortium for utilisation of DAE research facilities; enrichment of higher science education through interaction of its experts with university system, and training facilities/fellowships extended to countries through IAEA or under the bilateral agreements.

The Training School at Trombay is the premier training centre for

specialised training which prepares young scientists and engineers to take up multidisciplinary challenges of the nuclear and allied technologies. As a part of human resource development efforts, a number of training courses, seminars, symposia and workshops are regularly conducted by the DAE units. Homi Bhabha Young Scientist Award Scheme instituted by BARC, motivates excellence in research.

HRD programmes have been benefiting a number of countries in the areas of nuclear agriculture, nuclear medicine, radioisotope technology and specialised services. Collaborative research programmes are being pursued under Indo-German Bilateral Agreement and other Schemes. Training facilities, fellowships, scientific visits, etc., and services of scientists for expert assignments are offered both through the IAEA and to the countries with which India has entered into bilateral agreements in the field of peaceful uses of atomic energy.

INTERNATIONAL RELATIONS

India has been a member of the Board of Governors of the IAEA since its inception. In September 1994 the country was elected as the Chairman of the Board of Governors of IAEA for one year. Training facilities, fellowships, scientific visits, etc., and providing services of scientists for expert assignments are offered both through the IAEA and to the countries with which India has entered into bilateral agreements for cooperation in the field of peaceful uses of atomic energy. DAE is an active member of the World Association of Nuclear Operators and participates in peer reviews in many countries including USA, Japan and South Korea. IGCAR has also played an active role in the International Working Group on Fast Reactors.

The research centres of DAE have been active partners in a number of International Research Collaborations. BARC has been participating in the international collaborative research project on Micronuclei in Human Populations and in the development of CMS detector and detector frames to PHENIX.

INDIAN SPACE PROGRAMME

The Indian space programme was formally organised in 1972 with the setting up of Space Commission and the Department of Space (DOS) to promote development and application of space technology, specifically, in the areas of telecommunication, television broadcasting, meteorology, resources survey and management. Development of satellites, launch vehicles and associated ground systems is integral to the space programme objective. The space programme is executed through, mainly, the Indian Space Research Organisation (ISRO), National Remote Sensing Agency and Physical Research Laboratory. Over the last two and a half decades, the Indian space programme has made an impressive progress through a well integrated, self-reliant programme.

INSAT SYSTEM

The Indian National Satellite System (INSAT) is a multi-purpose satellite

system for telecommunications, meteorological observations and data relay, television broadcasting and radio and television programme distribution. It is a joint venture of Department of Space (DOS), Department of Telecommunications (DOT), India Meteorological Department (IMD), All India Radio (AIR) and Doordarshan. DOS has direct responsibility for establishment and operation of INSAT space segment.

INSAT system was established in 1983 with the commissioning of INSAT-1B. At present the system is served by the last of the first generation INSAT-1D launched in 1991, four ISRO-built second generation satellites, INSAT-2B, INSAT-2C and INSAT-2E launched in July 1993, December 1995, April 1999 and March 2000 and INSAT-2DT procured from ARABSAT in October 1997.

The communication payloads on board INSAT-2B, comprise 12 C-band transponders, six extended C-band transponders and two high-power S-band transponders. The meteorological payload includes a Very High Resolution Radiometer (VHRR) with 2 km resolution in visible band and 8 km resolution in infrared bands, and a transponder for meteorological data relay. The satellites also incorporate a transponder for receiving distress alert signals for search and rescue missions.

INSAT-2C in addition to carrying communication transponders in INSAT-2A and 2B, incorporate Ku-band transponders for business communication, extended coverage C-band transponders to enable TV programme outreach beyond Indian boundaries catering to the population from South East Asia to the Middle East and transponders for mobile satellite services. It does not carry the meteorological payload. INSAT-2C and INSAT-2B are co-located in the geostationary orbit thus enabling efficient use of allocated orbital slots. INSAT-2E incorporates an improved meteorological payload besides the communication payloads as in INSAT-2C. DOS has leased to INTELSAT organisation eleven 36 MHz equivalent units of C-band capacity on board INSAT-2E. Five satellites, INSAT-3A to INSAT-3E are planned to be launched in 1999-2002 time frame. INSAT-3B was launched on 22 March 2000. It carries 12 extended C-band transponder 3 Ku-band transponder and a Mobile Satellite Service transponder.

There are more than 450 telecommunication terminals of various types, including 50 terminals for rural telegraphy in the north-eastern part of the country, operating in the INSAT network providing about 5,500 two-way speech circuits over 166 routes. More than 800 micro-terminals have been set up under National Informatic Centres to provide nationwide data communication links between district and state capitals. Captive satellite-based networks such as for National Thermal Power Corporation (NTPC), Gas Authority of India Limited (GAIL), Nuclear Power Corporation (NPC), Indian Telephone Industries (ITI), Oil and Natural Gas Commission (ONGC), National Fertilizers Limited (NFL) and Coal India Limited (CIL) are operating through INSAT. The Press Trust of India (PTI) has implemented a system to

provide its news and information services at high speed and increased volume by utilising broadcast facilities of INSAT satellite. With the availability of INSAT-2C, INSAT-2E and INSAT-3B, business communication in Ku-band and mobile satellite service are being tried out.

The meteorological data gathering with VHRR instrument on board INSAT and its dissemination, along with its collection of remote area meteorological data from unattended platforms, has vastly improved weather forecasting in the country. Satellite based locale-specific disaster warning system has been established with over a hundred disaster warning receivers installed in the cyclone-prone coastal areas.

INSAT has enabled a vast expansion in the television service with over 900 TV transmitters linked through INSAT. The INSAT television network provides access to over 85 per cent of India's population. INSAT-2C enables Indian television outreach beyond Indian boundaries catering to the population from South East Asia to Middle East. Educational television service through INSAT has been introduced both at university level in the national network and at primary school level in several states including Andhra Pradesh, Orissa, Maharashtra, Gujarat and Uttar Pradesh. A channel on the INSAT has been dedicated for development of education and training. A pilot project for demonstration of satellite-based developmental communication and training has been taken up in Jhabua district of Madhya Pradesh.

INDIAN REMOTE SENSING SATELLITE SYSTEM

The 'Indian Remote Sensing (IRS) satellites are the mainstay of National Natural Resources Management System (NNRMS), for which Department of Space (DOS) is the nodal agency, providing operational remote sensing data services. The IRS system was operationalised with the commissioning of IRS-1A in March 1988. An identical satellite, IRS-1B was launched in August 1991 to continue the services from IRS. The IRS system has been further enhanced by IRS-1C, IRS-P3, IRS-1D and IRS-P4, the last three having been launched by India's own launch vehicle, PSLV, IRS-1C, launched on 28 December 1995 by a Russian rocket and IRS-1D launched by PSLV on 29 September 1997, have enhanced capabilities in terms of spatial resolution, additional spectral bands, stereoscopic imaging, wide field coverage and a more frequent revisit capability than its predecessors. They carry tape-recorders on board for recording the data when data is not being transmitted in real time. IRS-P3 was launched by the third developmental flight of PSLV (PSLV-D3) on 21 March 1996. It has a Modular Opto-electronic Scanner (MOS), designed and developed by DLR, Germany and a Wide Field Sensor (WiFS) similar to that of IRS-1C but with an additional Short Wave IR (SWIR) band for the study of vegetation dynamics besides an X-ray Astronomy Payload (XAP) to study the time variability and spectral characteristic of cosmic X-ray sources and detection of transient X-ray sources. Another satellite IRS-P4 (OCEANSAT) was launched by PSLV on 26 May 1999. Two more satellites, IRS-P5 and IRS-P6 for cartography and agricultural resources survey respectively are planned for launch in the next three years.

Remote sensing applications in the country, under the umbrella of NNRMS, now cover diverse fields such as crop acreage and yield estimation, drought warning and assessment, flood control and damage assessment, land use/land cover information, agroclimatic planning, wasteland management, water resources management, under-ground water exploration, prediction of snow-melt run-off, management of watersheds and command areas, fisheries development, urban development, mineral prospecting, forest resources survey, etc. Active involvement of the user ministries/departments has ensured an effective harnessing of the potential of space-based remote sensing. An important application of IRS data is in the Integrated Mission for Sustainable Development (IMSD) initiated in 1992. IMSD, under which 175 districts have been identified, aims at generating locale-specific action plans for sustainable development. IRS-P4 has opened up new vistas of applications related ocean resources.

LAUNCH VEHICLE TECHNOLOGY

India started launch vehicle development in a modest way through SLV-3 which could put 40 kg class satellite into near earth orbit. The capability was further built up through Augmented Satellite Launch Vehicle, ASLV, which had two successful flights - in May 1992 and May 1994 - when it injected the SROSS (Stretched Rohini Satellite Series) satellites, carrying a gamma ray burst experiment and retarding potential analyser into low earth orbit. The second satellite, SROSS-C2, is still sending valuable scientific data.

Today, India has realised the operational launch vehicle, PSLV, capable of launching 1,200 kg IRS class of remote sensing satellites into polar sunsynchronous orbit. The first successful developmental launch (PSLV-D2) took place on 15 October 1994 when it placed the IRS-P2 remote sensing satellite into the intended polar orbit. The second and final developmental test (PSLV-D3) was conducted on 21 March 1996 when IRS-P3 was placed into the intended polar orbit. The first operational flight, PSLV-C1 placed IRS-1D in orbit. PSLV-C2 placed Indian Remote Sensing Satellite, IRS-P4 (OCEANSAT), a Korean Satellite KITSAT-3 and a German satellite, TUBSAT into 727 km Polar sunsynchronous orbit on 26 May 1999. PSLV-C3 is planned in 2000-2001 to launch IRS-P5 (cartosat) and a Belgium satellite PROBA. The development of Geosynchronous Satellite Launch Vehicle (GSLV), incorporating a cryogenic stage, which will be capable of placing 2,500 kg INSAT class of satellites in geosynchronous transfer orbit, is making rapid progress and its first developmental test is expected by 2000-2001.

SPACE SCIENCE

Space science research is mainly carried out in the areas of astronomy and astrophysics, planetary atmosphere and aeronomy, earth sciences and solar system studies and theoretical physics. The activities are carried out mainly at Physical Research Laboratory, Ahmadabad and, to a lesser extent, at Space Physics Laboratory, Thiruvananthapuram, Space Applications Centre, Ahmadabad and ISRO Satellite Centre, Bangalore. A programme on geosphere-

biosphere research using balloon, rocket and satellite-based experiments to study the effect of anthropogenic activities on the earth's environment is continuing. A National Mesosphere-stratosphere Radar Facility (NMRF) has been established at Gadanki near Thirupati for study of atmospheric dynamics, atmospheric turbulence and diffusion measurement, study of atmospheric pollutant dispersion, detection of wind shear, cloud physics, etc. The gamma ray burst experiment carried on board SROSS satellites and X-ray Payload on IRS-P3 satellite have helped in furthering research in high energy astronomy.

SPACE-INDUSTRY COOPERATION

Under space-industry cooperation, 236 advanced technologies developed by ISRO have been transferred to industry for commercial use. Technology consultancy is also provided to industry. ISRO also utilises the Indian industry capability for the space programme. Certain premier industries in the field of aeronautics, communications and engineering have now set up their own specialised departments to deal with space hardware. In order to market the variety of hardware and services that are available through ISRO, Antrix Corporation Limited, a government-owned company, has been established. Antrix has already signed an important contract with a leading US company for receiving and marketing data from Indian remote sensing satellites globally. Many ground stations all over the world have already been augmented with Indian supplied hardware to receive data from IRS satellites. Several other contracts have also been executed by Antrix.

INTERFACE WITH ACADEMIC AND R & D INSTITUTIONS

ISRO has an active programme to interact with academic and research institutions all over the country for the benefit of space programme. Under the Sponsored Research (RESPOND) scheme, several research projects relevant to the space programme are being funded by the Department of Space in academic and R and D institutions. Space Technology Cells have been established at reputed institutions.

INTERNATIONAL COOPERATION

International cooperation is an important element of the Indian space programme. The establishment of Equatorial Rocket Launching Station, conduct of SITE and STEP, launches of *Aryabhata*, *Bhaskara I* and *II*, *IRS-1A* and *1B* and *APPLE*, manned space mission, development of *Vikas* engine, etc., involved cooperation with several countries including USA, the former Soviet Union, France, Germany, European Space Agency, etc. India has cooperative agreements with several countries like China, France, Germany, Canada, Hungary, Mauritius, Norway, Russia, Sweden, Syria, the Netherlands and Ukraine and space agencies such as the European Space Agency. India shares its own experience with other developing countries by training their personnel under a programme called SHARES (sharing of experience in space).

India has actively participated in international campaigns related to atmospheric research. India has been actively participating in the UN Committee on Peaceful Uses of Outer Space and has set up two Local User Terminals (LUT) and Mission Control Centre (MCC) as part of the COSPAS-SARSAT network, under the International Satellite aided search and rescue programme. The UN Asia-Pacific Regional Centre for Space Education set up in India in November 1995, is a recognition for India's role in sharing its experience in the development and application of space technology for social benefits.

SPACE CENTRES AND UNITS

The headquarters of the Department of Space (DOS) and Indian Space Research Organisation (ISRO) are located at Bangalore. Research and development activities under the space programme are carried out in the following centres/units of DOS/ISRO: (i) Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram, is the lead centre for launch vehicle development. It pioneers in rocket research planning and execution of launch vehicle development projects; (ii) ISRO Satellite Centre (ISAC), Bangalore, is responsible for the design, fabrication, testing and management of satellites for scientific, technological and application missions; (iii) Space Applications Centre (SAC), Ahmedabad, is engaged in design and development of payload systems for satellites and carry out application demonstration of space technology; (iv) SHAR Centre, Sriharikota, located on the east coast of Andhra Pradesh, is the main launch centre of ISRO. Propellant processing and ground testing of solid fuelled rocket stages are also carried out in this centre; (v) Liquid Propulsion Systems Centre (LPSC) is the centre for development of liquid propulsion systems both for launch vehicles and satellites. It has facilities located at Thiruvananthapuram, Bangalore and Mahendragiri (Tamil Nadu); (vi) Development and Educational Communication Unit (DECU), Ahmedabad, is involved in conception, definition, planning and socio-economic evaluation of space application programmes; (vii) ISRO Telemetry, Tracking and Command Network (ISTRAC) with its headquarters and Spacecraft Control Centre at Bangalore and a network of ground stations at Sriharikota, Thiruvananthapuram, Bangalore, Lucknow, Port Blair and Mauritius, provides telemetry, tracking and command (TTC) support for the launch vehicle and satellite missions of ISRO and also for other space agencies; (viii) Master Control Facility (MCF) at Hassan in Karnataka is responsible for all post launch operations of INSAT satellite including orbital manoeuvres, station keeping and in-orbit operations on the spacecraft; (ix) ISRO Inertial Systems Unit (IISU), Thiruvananthapuram, carries out development of inertial systems for both satellites and launch vehicles; (x) Physical Research Laboratory (PRL), Ahmedabad, under DOS is the premier national centre for research in space and allied sciences; (xi) National Remote Sensing Agency (NRSA), Hyderabad under DOS is responsible for reception, processing and dissemination of data from remote sensing satellites and also carry out aerial surveys; and (xii) National Mesosphere, Stratosphere, Troposphere Reader Facility

(NMRF) at Gadanki, near Thirupati is available to scientists for carrying out atmospheric research.

INFORMATION TECHNOLOGY

India is emerging as a global power in Information Technology (IT) as one of the largest generators and exporters of software in the world. The Indian Information Technology (IT) industry revenues in the software sector have grown more than ten fold from US\$ 50 million in 1988-89 to US\$ 5.7 billion in 1999-2000. As a result, India has been acknowledged the world over as an important base for the growth and development of the IT industry.

In order to give a concerted and focussed approach to developing this sector further, the Government of India set up a new Ministry of Information Technology (MIT) on 15 October 1999 to be the nodal institutional mechanism for facilitating all the initiatives in the Central government, the State governments, academia and the private sector for all-round growth of IT. The Ministry seeks to play the role of a pro-active facilitator, motivator and promoter and launch initiatives to ensure the spread of IT to the masses for enabling speedy IT-led development.

Accordingly, the Ministry has targeted implementation of a comprehensive action plan to make India an IT Superpower by the end of this decade and achieve a target of \$ 50 billion in software exports by 2008. This would require focussed initiatives to accelerate the Internet revolution in India, emphasizing the creation of useful contents in Indian languages, IT-enabled services, IT education, electronics and computer hardware manufacturing and exports, silicon facility, E-Commerce and Internet-based E-Businesses.

IT VISION FOR THE FUTURE

To make India a global power in Information Technology by the year 2008 is the new IT vision, which translates thus: (i) Creation of Wealth, (ii) Employment Generation and (iii) IT led Economic Growth.

INITIATIVES TOWARDS THE GOAL

Policy Measures: A number of key initiatives have already been taken with regard to the fulfillment of the set vision. A National Task Force on IT and Software Development, the PM's Council on Trade and Industry, and the National Advisory Council on IT have been set up. This has been followed by a wide array of policy measures crafted to provide a vibrant enabling environment for the growth of IT. Some of the key initiatives relate to financial sector reforms like liberalized norms for investments of up to 100 per cent foreign equity with full repatriation benefits, tax holiday of up to 10 years for IT units to be set up in Software Technology Parks on a graded basis, providing a complete pass-through mechanism with single-point taxation for Venture Capital funds, encouragement to R&D through tax holiday of up to 10 years, provision for growth of companies through acquisitions by ADR/GDR of up to 10 times the exports value, creation of individual wealth by

putting in place provision of sweat equity, stock options and minimal taxation of these at a single point only. Corporate benefits have been given through enhancement of rate of depreciation on computers, separate guidelines for sanction of working capital finance to the software industry, setting up of IT Venture Capital Fund, fast-track clearance of goods imported by manufacturers of electronic goods, simplification and liberalisation of Export and Import policy and procedures for implementation of the export oriented schemes.

To enable commensurate growth of the telecom infrastructure the steps taken are: increased participation of the private sector in providing fixed, mobile and satellite based communication infrastructure in the country; revenue based sharing with up to 74 per cent equity investment in satellite-based projects; liberalised access to foreign satellites; opening up of international gateways and laying of optic-fibre network for promoting broad-band internet services. The focus is on to enable concerted convergence of IT, telecom, consumer electronics and entertainment media. A target of achieving PC penetration of 20 per thousand, TV penetration of 225 and fixed telephony penetration of 125 per thousand has been set to be achieved by the year 2008.

The entire effort required would open up widespread opportunities for investment and markets. Thus, according to conservative estimates, the country would require investment of close to US\$ 16 billion with a total equipment requirement of US\$ 160 billion in the hardware industry along with a market for production of US\$ 87 billion worth of software production by the year 2008. Total employment generation from this investment is expected to be 7 million including 3.2 million of indirect employment. This would open up investment opportunities in the IT training sector at a scale unmatched globally.

National Task Force on Information Technology and Software Development: The National Task Force on Information Technology and Software Development set up by the Prime Minister's Office in May 1998 submitted the reports in three parts. The first report of 108 recommendations was accepted by the Government. These recommendations relate to telecommunication policies and procedures, cyber laws, labour laws for IT industry, fiscal incentives and financial matters, promotion of IT in schools and rural areas, increase in computer literacy and computer penetration in the country.

Advisory Committee for Ministry of Information Technology: An Advisory Committee for the Ministry comprising professionals from Indian IT industry was set up on 17 January 2000 under the Chairmanship of Minister of Information Technology. The Advisory Committee is to assist the Ministry of Information Technology to identify thrust/emerging technology areas and to suggest measures/policies/actions for making Indian IT industry a global superpower.

A Select Group comprising successful and well-known IT professionals based at Silicon Valley has also been formed under the Chairmanship of Minister of Information Technology to advise the Government on various

issues relating to development of IT, telecommunication infrastructure and software export from the country.

Electronic Commerce - Information Technology Bill: Electronic Commerce permits individuals and companies to directly make all financial transactions electronically. The Information Technology (IT) Act, which provides legal framework for recognition of electronic contracts, prevention of computer crimes, electronic filing of documents and digital signature, came into effect on 18 October 2000. Appropriate amendments have been made in the Indian Evidence Act, Indian Penal Code, RBI Act, and Bankers' Book Evidence Act. With the implementation of the IT Act, India joins the dozen digital nations that have provided the legal framework for e-commerce.

The Semiconductor Integrated Circuits Layout Design Bill: Government of India has ratified the Agreement on Trade Related aspects of Intellectual Property Rights (TRIPS) of the World Trade Organisation (WTO). As a part of the TRIPS, a law has to be enacted with regard to Layout-Designs of Integrated Circuits. The Bill was introduced in the Rajya Sabha on 20 December 1999.

Communication Infrastructure: The Ministry of Information Technology has initiated a national focus on National Information Infrastructure with the aim of promoting use and proliferation of Information Technology. Strengthening of infrastructure is being achieved through major expansion and growth of international gateways by the Software Technology Parks of India (STPI); Advanced Technology Programme in Computer Networking (ERNET) Society through network for distance learning programme, test-bed for applications like E-Commerce and Electronic Governance, installation of VSATs and the seven Gateways; and Standardisation, Testing and Quality Certification Directorate (STQC), which provides one-stop solution to all quality-related requirements of electronics industry through its 22 Labs spread all over the country. Under National Information Infrastructure initiatives, a project entitled 'Development and Deployment of Multipurpose, Multilingual, Multimedia, Scalable Information Warehouse based on PARAM Openframe Architecture for State Level Governance of AP' has been initiated. The project aims at organising the multipurpose household survey data into meaningful scalable information warehouse for providing the decision-makers with relevant data tools.

Internet Bandwidth: The bandwidth requirement for Internet is estimated to be 4GBPS by 2001 and 15 GBPS by 2008. Another 10 GBPS bandwidth would be required by 2008 for software exports and IT enabled services. Thus Internet Service Providers (ISP) have been permitted to set up international gateways and hire bandwidth on foreign satellites. Higher frequencies in Ku/Ka band have been permitted. This will enable the increased availability of Internet bandwidth and will facilitate Internet expansion in the country.

Venture Capital Fund: The MIT set up a National Venture Fund for Software

and IT Industry with a corpus of Rs 100 crore in association with Small Industries Development Bank of India (SIDBI) and Industrial Development Bank of India (IDBI). The aim was to provide Venture Capital to start up software professionals and IT units in the small scale sector on 10 December 1999. The Fund has a two-tier structure with a separate Trustee Company and a professionally-managed Asset Management Company (AMC). A separate website relating to venture capital funding in India, namely, <http://venturefundindia.mit.gov.in> has also been created for framing in Venture Capital activities.

Electronic Governance: The trends in Information Technology have brought about a new set of services and have transformed the traditional services in terms of fast delivery. The MIT has initiated institutional mechanisms to facilitate initiatives towards greater utilization of IT as an enabling tool for efficiency and effectiveness in Government. Three test-beds in the area of electronic governance have been initiated in close association with the Government of Andhra Pradesh which could be used by other states for replication. The web site <http://egmit.gov.in> has also been created to develop into a portal for E-Commerce activities.

IT Enabled Services: IT Enabled Services have been recognised as a major opportunity for employment and foreign exchange earning for India. 100 per cent FDI in IT Enabled Services has been allowed with full repatriation benefits. The IT Enabled Services include On-line information and help support through Call Centres; Medical Transcription; Back Office Operations, Revenue Accounting and other ancillary operations; Insurance claims processing; Legal databases; Content development; Payroll and Logistics management, besides others. India offers many advantages to serving as an IT Enabled Services destination for major global Companies, which includes a virtual 12-hour time zone difference with USA and other major markets for IT Enabled Services, making possible virtual office operations round the clock and a huge pool of English-speaking computer-literate graduate manpower at the most competitive services in the world.

PC Penetration: Penetration of personal computers (PC) is an indicator of the diffusion of IT in various sectors of the economy. It is planned to increase PC penetration in India from the present level of 3.43 per thousand to 20 per thousand by 2008. To meet this objective, personal computers have been made freely importable, customs duties on import of PCs are being lowered and the MIT is promoting development of IT tools in various Indian languages.

Human Resource Development: In order to enable an export of US\$ 50 billion of computer software and IT enabled services by the year 2008, a work force of over two million IT professionals will be required. The country today produces nearly 2,00,000 graduate engineers in all disciplines. Promotion of Human Resource Development is being achieved through implementation of

the National Software Capability Enhancement Programme, National Centre for Software Technology (NCST), Centre for Electronics Design and Technology (CEDT), setting up of Indian Institutes of Information Technology (IIITs), Special programme for generation of trained manpower in the area of VLSI design, higher-end human resource development for Information Technology, IT enabled distance education for IT Sector, DOEACC Scheme and Project IMPACT (Industry oriented Manpower with Appropriate Competence and Training).

Software Capability Enhancement: For upgrading the quality of Indian software industry to international standard, the Ministry has initiated a programme for Software Capability Enhancement, namely, Soft Cap in association with Carnegie Mellon University (CMU), USA.

Technology Development: The MIT has been giving high priority to technology development in the country. This has resulted in the development of state-of-the-art parallel supercomputer (PARAM), Gigantic Radar for atmospheric dynamic studies, data handling and security system covering Radar and communication, global positioning system components, Linear Accelerator for cancer therapy, Instrumentation for semiconductor industry such as Molecular Beam Epitaxy, Fingerprint analysis and criminal tracking system, Commissioning of HVDC line of 200 MW/200 KV, Automatic drip irrigation system, Agri-instrumentation systems, Water treatment plant automation, IT tools for watershed development, low cost multimedia content creation and technology development for Indian languages, besides others.

Application Development: With a view to promoting applications of Electronics and IT; significant achievements have been made under the industrial electronics promotion programme, transport and power distribution programme, electronics in power/energy sector programme, electronics and healthcare programme, development programme on intelligent manufacturing systems and electronics for rural/social/agriculture/water sector programme of the Ministry.

Electronics: There are more than 3,500 units engaged in Electronics production which include 13 Central public sector units with 29 manufacturing establishments, over 65 units in state public sector, about 600 units in organised private sector and more than 2,800 units in the small-scale sector. The electronics production during 1999-2000 was Rs 519 billion, as compared to Rs 411 billion during 1998-99, registering a growth of over 26 per cent. The electronics exports were of the order of Rs 184 billion during 1999-2000, as against Rs 128 billion in 1998-99, showing a phenomenal growth of 45 per cent. The Electronics production during the last five years is given in table 7.1.

TABLE 7.1 : ELECTRONICS PRODUCTION

(Rs in billion)

Item	1995-96	1996-97	1997-98	1998-99	1999-2000 ¹
Consumer Electronics	58.00	65.00	76.00	92.00	112.00
Industrial Electronics	29.00	31.00	31.50	33.00	34.00
Computers	22.25	27.40	28.00	23.00	20.00
Communication and Broadcast Equipment	26.00	30.00	32.50	44.00	44.00
Strategic Electronics	10.75	13.00	9.00	13.00	14.50
Components	35.00	37.00	44.00	47.50	52.00
Sub-Total	181.00	203.40	221.00	252.50	276.50
Software for Exports	25.50	37.00	65.00	109.40	170.00
Domestic Software	16.90	26.00	34.70	49.50	73.00
Total	223.40	266.40	320.70	411.40	519.50

¹ Estimated

CONSUMER ELECTRONICS

The Consumer Electronics sector has been a leading catalyst for Indian electronics industry, contributing about 40 per cent of the total electronics hardware production. This sector achieved a production of Rs 112 billion during 1999-2000, as against Rs 92 billion during 1998-99. The colour television industry continued to lead the growth reaching a level of 5.7 million sets in the year 1999-2000. The tape recorder industry registered a growth of 35 per cent increasing to 14 million numbers. The clock industry also registered a 35 per cent growth. Continued growth in the domestic market has enabled a number of companies in achieving economies of scale in production. Exports of consumer electronic goods from India are estimated at Rs three billion for the year 1999-2000. The major items of export are black and white TVs, colour TVs, VCRs/VCPs, tape recorders, clocks, watches, amplifiers, blank and pre-recorded Audio/Video Cassettes and CDs.

SOFTWARE

The Indian Software Industry has been doing consistently well during the last few years, recording an annual average growth rate of above 50 per cent. The size of the industry is likely to grow from Rs 159 billion in 1998-99 to Rs 243 billion in 1999-2000. Software exports from the country continued to grow and are likely to be Rs 170 billion in 1999-2000 from Rs 109 billion in 1998-99, a growth of over 55 per cent. Domestic software is also likely to grow from Rs 49 billion in 1998-99 to Rs 73 billion in 1999-2000. Indian Software strength has been in the availability of English speaking technical manpower in abundance, that is well suited for the analytical work like software development.

Electronics exports from 1995-96 onwards are shown in table 7.2.

TABLE 7.2 : ELECTRONICS EXPORTS

(Rs in billion)

Item	1995-96	1996-97	1997-98	1998-99	1999-2000
Consumer Electronics	430	535	600	400	300
Industrial Electronics	140	170	200	160	200
Computers	775	932	1,250	400	240
Communications and Broadcasting Equipment	310	400	100	70	50
Strategic Electronics	20	30	10	10	10
Components	360	520	840	760	600
Sub-Total (Hardware)	2,035	2,587	3,000	1,800	1,400
Computer Software	2,550	3,700	6,500	10,940	17,000
Total	4,585	6,287	9,500	12,740	18,400

¹ Estimated

Major destinations of exports of electronic hardware are USA and Canada; Singapore, Hong Kong, South Asian countries and Europe (EC countries). Major destinations of exports of Computer Software and services are USA and Canada; Europe (EC countries) and Japan, Korea and Far East countries.

NATIONAL INFORMATICS CENTRE

National Informatics Centre (NIC) of the Ministry of Information Technology is a premier S&T organisation of the Government of India in the field of Informatics Services and Information Technology (IT) applications in India. NIC was set up in 1977 as a constituent unit under the erstwhile Department of Electronics and then brought under the Planning Commission in 1988, to provide computer-based informatics services to Government Ministries/Departments, attached and subordinate offices, semi-government organisations, public sector units, as well as autonomous societies, cooperative and other organisations having majority funding by the Government for decision support at national, state and district level. The Government has designated the nation-wide Computer-Communication Network, NICNET, set up by the National Informatics Centre, as the Government Network. NIC is the only Government Organisation in India, at present, offering network services over C-band and Ku-band (TDMA, FTDMA & SCPC) VSATs, Wireless Metropolitan Area Networks (MANs) and Local Area Networks (LANs) with NICNET gateway for Internet resources, so as to promote economic, social, scientific and technological activities, and also for the "macro-economic adjustment programme" of the Government.

NIC plays an important role in the area of "informatics for development", which *inter alia* includes, Data warehousing (Data bases & Model bases), Expert systems & Knowledge Bases, Network services (Internet, Intranet), Geographical Information System (GIS), Application of Remote Sensing Data, Multi-media Information System, Digital Library, E-Governance & E-Commerce, and Decision Technology System.

IT IN COURTS

The Government has embarked upon massive use of Information Technology in courts to speed up disposal of cases. Under the Centrally-sponsored scheme for the development of infrastructural facility for the judiciary, the Centre has released Rs 208.28 lakh during 2000-2001 to various States/UTs for implementation of IT in courts. The recommendations of the First National Judicial Pay Commission on the use of IT have been commended to all the High Courts. All States and UTs have been advised to provide requisite training to court staff in computerization with the assistance of the NIC.

OCEAN DEVELOPMENT

The Department of Ocean Development (DOD) was created in July 1981 to function as a nodal Department for organising, coordinating and promoting ocean development activities in the country, in line with the Ocean Policy Statement.

The major objectives of the Department are: (1) Development of technologies relating to seabed mining, extractive metallurgy and ocean energy; (2) Contribution towards front ranking research in polar sciences; (3) Exploration of marine resources and their co-relation with oceanographic parameters, studies to evolve exploration parameters and strategies; (4) Development of technologies and infrastructure for exploration and sustainable and rational utilisation of marine living and non-living resources; (5) Developmental activities related to integrated coastal and marine area management, coastal community development, ocean information services, etc., with direct application to the welfare of the society; and (6) Basic research in Ocean Science and Technology, Human Resource Development, creation of Centres of Excellence in academic institutions and public awareness on the potential and uses of ocean.

The programmes and activities undertaken by the Department are of sustainable and environment friendly exploration and utilisation of marine living and non-living resources for the socio-economic benefit of the country. These objectives are achieved through the programmes of the Department which have been reoriented and revamped during the Ninth Five Year Plan period.

ANTARCTIC EXPEDITION AND POLAR SCIENCE

India entered into the realm of polar science in 1981 with the launch of the first scientific expedition. So far 19 expeditions on an annual basis have been

successfully launched to Antarctica. In addition, an expedition to the Weddell Sea and one for Krill assessment studies in the Antarctic waters have also been undertaken.

The Indian station *Maitri* situated in the Central Droning Maud land of east Antarctica has provided a platform to more than 1,300 personnel drawn from about 50 national laboratories, institutes and universities to conduct experiments in all major disciplines of polar sciences. The Indian Army and the Defence Research and Development Organisation (DRDO) laboratories have aptly provided the specialised logistics required for the scientific mission.

The ability to conduct front ranking science on a year round basis from our permanent base in Antarctica has ensured India to play a pre-eminent role as a Consultative Member in the Antarctic Treaty system since 1983. The long-term scientific strategy of India in Antarctica is designed mainly to address the issues of national interest and contribute to global campaigns mounted by SCAR in the icy continent. This has prompted the initiation of several international collaborative experiments in various domains of polar science and logistics with France, Germany, Italy, South Africa, Argentina, Iran and Peru.

Even while using Antarctica as a platform for conducting scientific research, India has always recognised the importance of preserving the pristine nature of this continent, which controls intricate global processes of the earth. To uphold these commitments, India, an original votary of the Protocol on Environmental Protection to the Antarctic Treaty, has ratified this Protocol in April 1998 which led to her membership to the Committee on Environment Protection (CEP) during the 22nd Antarctic Treaty meeting held in Norway.

For the first time in the history of Indian Polar Science Programme, the 19th Indian Scientific expedition to Antarctica with 47 members team was launched from Cape Town, South Africa, on 9 December 1999, keeping in view the likely scientific and economic benefits and future international cooperation in the field of polar science between India and other countries.

In addition to the ongoing programmes several new experiments have been initiated during the course of this expedition, which include: (i) Study of earth-air current systems to give an insight to the deep space processes; (ii) Experiments on crack propagation of the ice-shelf in order to understand the dynamics and processes of Iceberg generation; (iii) Installation of a number of automatic weather stations to measure energy balance and albedo factors of the ice, as a part of global change studies; (iv) Reconstruction of the past climatic and vegetative history through the study of organo-debris present in the fresh water lake sediments of Antarctica; and (v) Establishment of an environment monitoring laboratory for the first time at *Maitri* in order to carry out an year round assessment of the status of air, noise, water biological and land environment of Antarctica.

The summer team of the 19th expedition returned to India on 6 March 2000 along with the winter team members of the 18th expedition.

MARINE LIVING RESOURCES

The major objectives of the programme are :

Marine Environment and productivity studies: The marine environment and the productivity patterns determine distribution and abundance of exploited living resources. Under the Marine Living Resources programme of the Department, information on these aspects is gathered for the entire Indian Exclusive Economic Zone (EEZ) on a seasonal basis through dedicated cruise of the research vessel Fishery and Oceanographic Research Vessel (FORV) *Sagar Sampada*.

Fishery Resource survey along the Indian continental slope: The project envisages assessment for demersal fishery resources of the Indian continental slope by acoustic survey and trawling operations. Four cruises of FORV *Sagar Sampada* dedicated to the project were carried out in the Indian EEZ. Occurrence of deep sea lobster and deep sea shrimps were reported from the Andaman sea at a depth of 300-330 m. Deep sea shrimps were also reported from south-west coast in the 300-620 m depth zone.

Studies on the Deep Scattering Layer: The project envisages detailed studies on the bio-composition, abundance and distribution of the DSL resources in the Indian EEZ. DSL resources between 150 and 500 m depth were studied by bioacoustics through six cruises of FORV in the Arabian Sea, three cruises in the Bay of Bengal and one cruise in the Andaman Sea. Surveys were conducted. The DSL showed diurnal vertical migrations.

Studies on Toxic algal Blooms: The project is designed to foster the effective management of, and scientific research on toxic algal blooms, in order to understand their causes, predict their occurrence and mitigate their effects. Samples collected from 147 stations in five cruises of FORV were analysed for toxic algal presence. The micro flora included 152 species of algae. Eleven harmful species have been recorded.

Benthic Productivity studies: The project envisages a comprehensive study of the productivity, nature of the resources, conversion of organic matters, process of mineralisation, taxonomy and community structure of the benthic fauna in the continental shelf of the Indian EEZ. A cruise of FORV *Sagar Sampada* dedicated to benthic productivity studies was undertaken in shelf waters of the west coasts. Sediment samples were collected from 58 stations from 30m, 50m, 100m, and 200m depths.

The Sagar Sampada Cell at Kochi, which is operating and managing the Fishery and Oceanographic Research Vessel *Sagar Sampada* and coordinating the implementation of the Assessment of Marine Living Resources programme, would eventually emerge as the full-fledged Centre for Marine Living Resources and Ecology in the next few years.

Under the DOD National Project "Drugs from Sea", so far about 800 species of marine flora and fauna have been collected and identified from different coastal areas. About 60 new flora and 190 new fauna were collected for general biological screening. Repeat collection of 19 flora and fauna was also made for confirmation of biological activities and follow-up studies. Biological activity was observed in 23 crude extracts and confirmation of activity in follow-up fractions/pure compounds had been located in seven organisms.

The six marine organisms showing potent anti-diabetic/anti-diarrhoeal; anti-hyperlipidaemic, anti-anxiety, anti-cholesterol cum antioxidant; anti-bacterial cum anti-fungal and larvicidal activities were taken up for product development. Bioassay guided modification of extraction procedure for CDR-134 for separation of active principles responsible for anti-diabetic and anti-diarrhoeal activities was found to be successful. One of the preparations showed consistently anti-diabetic activity in animal models and was devoid of anti-diarrhoeal activity. The other preparation showed anti-diarrhoeal activity. Pre-clinical studies on these two preparations and on anti-hyperlipidaemic fish oil preparations are progressing satisfactorily. Product development work on anti-anxiety, anti-cholesterol-cum-antioxidant; anti-fungal/anti-bacterial organisms will also be undertaken.

MARINE NON-LIVING RESOURCES

India was accorded the status of a Regional Pioneer Investor in 1987 pursuant to her efforts and progress in the identification and assessment of the polymetallic nodules in the Central Indian Ocean Basin (CIOB). The country has since made considerable progress towards endowment assessment technology and manpower development towards exploitation of the potential resources. The programme consists of four components - Survey & Exploration of nodule in the CIOB; Environmental Impact Assessment Study; Development of technologies for mining of nodules; and Extraction of metals. The programme is guided and reviewed by the PMN Board of Management.

Survey & Exploration in the CIOB mine site was continued for updating relative concentration and quality characteristics of the polymetallic nodules in different pre-determined blocks. Grab samples were collected during a cruise to CIOB as part of close grid sampling at five km in selected blocks initiated earlier.

A joint collaborative programme for deep-sea mining technology has been initiated with Institut für Konstruktion (IKS), University of Siegen, Germany to develop a crawler based flexible riser-positive displacement pumping concept for deep sea mining. In the first phase, an underwater crawler developed at IKS has been refurbished with a manipulator, cutter, slurry pump, hydraulics, electrical, instrumentation and control systems for sand mining operation at 500 m water depth.

As part of the first stage demonstration the crawler and the various

systems were successfully tested at a water depth of 410 metres off Tuticorin during March 2000. The system pumped sand and slurry at a variable speed with a maximum concentration of 1,170 kg/cu.m. The design of the Crawler involved complex integration of mechanical, electrical and instrumentation technologies and is a breakthrough internationally and provides firm basis for the next phase of development.

Under an MOU with Russian Academy of Sciences (RAS), it is proposed to develop an unmanned submersible capable of operating up to 6,000 m depth. NIOT, Chennai and Experimental Design Bureau of Oceanological Engineering (EDBOE), RAS, have initiated a proposal to design, develop and test the unmanned submersible capable of working up to 6,000 m water depth. The work under this joint collaborative effort was commissioned.

A continuous demonstration pilot plant to process 500 kg per day of polymetallic nodules from Indian mine site to validate the process package developed for extraction of metal values from nodules by Regional Research Laboratory, Bhubaneswar and Bhabha Atomic Research Centre, Trombay, is being set up at Hindustan Zinc Limited, Udaipur. The Department has already collected about 80 tonnes of nodules for this demonstration plant with the help of research vessel R.V.A.A. *Sidorenko*. The demonstration campaigns will generate data for techno-economic studies.

MARINE ENVIRONMENT AND COASTAL ZONE

The Coastal Ocean Monitoring and Prediction System (COMAPS) programme is being implemented since 1990-91. The investigations are carried out by 11 institutions at about 82 locations in the 0-25 km transects from the coast to the sea. The data collected so far have indicated that the sea off two km from the coast is clean, except in the case of Mumbai, where the sea beyond five km is clean.

COASTAL RESEARCH VESSELS

Two Coastal Research vessels, namely, *Sagar Purvi* and *Sagar Paschimi* are used for the coastal oceanographic research programmes of DOD and the National Institute of Ocean Technology (NIOT) including COMAPS. The vessel times are also made available to public and private sectors on a payment basis depending on the nature of the programme. Both the vessels undertook 43 cruises covering 340 sampling stations for collecting over 2,100 water, and 561 sediment, CTD and plankton samples each during 1999-2000.

INTEGRATED COASTAL AND MARINE AREA MANAGEMENT

During the Ninth Plan period, the DOD took up for implementation infrastructure development and capacity building activities to facilitate adoption of the concept of Integrated Coastal and Marine Area Management (ICMAM) in the coming years. These activities focus on development of expertise in ICMAM oriented activities, and dissemination of knowledge gained to the users like coastal states through organised training programmes.

The Department established a ICMAM Project Directorate at Chennai which is implementing various activities from 1998-99 onwards.

Under the project 'Environment Management Capacity Building' coordinated by the Ministry of Environment and Forests, the capacity building activities funded by the World Bank are being carried in the following areas: (i) Development of GIS based information system for 11 critical habitats like coral reefs, mangroves, etc., in Gulf of Khambat, Gulf of Kutch, Malvan, five islands off Karwar, three islands off Cochin, Gulf of Mannar, Pitchavaram, Coringa mangrove, Gahirmata, Sunderbans and Kadamat (Lakshadweep). A draft GIS for Pichavaram mangrove area completed and for Gulf of Mannar initiated; (ii) Determination of waste load allocation based on waste assimilation characteristics of selected estuaries (Tapi estuary and Ennore creek). Data collection is in progress; (iii) Development of EIA guidelines for major coastal developmental activities and processes like construction of ports, harbours and breakwaters, waste disposal from domestic and industrial wastes, marine transportation and coastal tourism preparation of draft Environmental Impact Assessment (EIA) guidelines for ports and harbours is completed; (iv) Development of model ICMAM plans for Chennai, Goa and Gulf of Kutch; and (v) Infrastructure, Training, R&D and Survey. Under this component, infrastructure facilities are being created to house a long term training programme for utilising the capacity built under the Capacity Building programme. The training will be provided to the coastal states in the development of ICMAM Plans and use of GIS in the management of critical habitats. R&D activities like determination of Use Classification for coastal waters and determination of No Impact Zone in critical habitats such as mangroves, lagoons, etc., as part of the pre-requisites for adoption of ICMAM are proposed to be carried out.

OCEAN OBSERVATIONS AND INFORMATION SERVICES

The Ocean Observations and Information Services (OOIS) envisage generation and dissemination of reliable coastal and ocean data products such as waves, winds, temperature, current, salinity, upwelling, potential fishing zone information, coastal maps, etc., to support coastal and off-shore developmental activities and for furthering quality oceanographic research. The OOIS also envisage development of systems for ocean state forecast, on experimental basis by terminal year of the Ninth Plan. The OOIS programme consists of four major components, viz., Ocean Observing Systems, Ocean Information Services, Ocean Dynamics and Modelling, and Satellite Coastal and Oceanographic Research.

OCEAN OBSERVING SYSTEMS

The objective of Ocean Observing Systems (OOS) programme is to acquire *in-situ* oceanographic and surface meteorological parameters on real-time basis from the seas around India. The parameters being measured under the programme include surface winds, waves, atmospheric pressure, temperature, sea surface temperature, salinity, temperature profiles, dissolved oxygen,

hydrocarbons, nutrients, radio-activity, sea-level, etc. The instruments deployed for measurements of these parameters are moored data buoys, drifting buoys, expendable bathythermographs (XBT), current meter arrays and tide gauges. Validation of the satellite sensors would also be undertaken using the sea truth data generated under this programme. The OOS project consists of three sub-projects viz., National Data Buoy Programme, Sea Level observation and Drifting buoy and other Observing systems.

Under the National Data Buoy Programme, being implemented by NIOT, Chennai 12 data buoys have been deployed in the India seas. The buoys are equipped with state-of-the-art sensors for measurement of winds, waves, currents, atmospheric pressure, atmospheric temperature, sea surface temperature, dissolved oxygen, chlorophyll, radioactivity, hydrocarbon and turbidity. A shore station was commissioned at NIOT for retrieval, processing, analysis and storage of the data from the buoys.

The programme being implemented through NIO, Goa envisages deployment of drifting buoys, expendable bathythermographs (XBTs), and current meter arrays, for augmentation of *in situ* oceanographic data. About 48 drifting buoys, three current meter arrays and 900 XBTs would be deployed under this programme during the Ninth Plan period.

Under the Sea Level Observation project, 10 modern tide gauges stations were established at Mumbai, Porbunder, Goa, Kochi, Chennai, Visakhapatnam, Paradip, Kavaratti, Machlipatnam and Tuticorin for systematic and accurate monitoring the tidal level to derive long term variations in the mean sea levels. The data from these tide gauges are collected regularly and sent to the National Tide Data Centre at Survey of India, Dehradun. Based on the sea level data collected along the Indian coast, a numerical model has been constructed to simulate circulation in the Northern Indian Ocean.

The Land Ocean Interaction in the Coastal Zone (LOICZ) project envisages estimation of fluxes of material in the land and ocean boundary and its variability for understanding the changes in the coastal zones at regional and global scale particularly with respect to global climate change. Two coastal areas such as Godavari Basin and Eastern Arabian Sea Margin have been considered for undertaking these studies.

OCEAN INFORMATION SERVICES

The Indian National Centre for Ocean Information Services (INCOIS) was set up at Hyderabad in February 1999 as an autonomous body for generation and dissemination of user oriented data products, on operational basis. Near real-time data and data products such as Sea Surface Temperature (SST) and Potential Fishing Zone (PFZ) advisories, upwelling zones, maps, eddies, chlorophyll, suspended sediment load, etc., consultancy services to the Central Government, States, corporate sector industries, will be available to the user agencies under one roof.

OCEAN DYNAMICS AND MODELLING

Knowledge of ocean dynamics is a prerequisite for prediction of ocean state based on ocean models. During 1998-99, dynamics of marine ecosystem and air-sea exchange of carbon dioxide were studied using Modular Ocean Model. Air-sea interaction process for monsoon prediction was studied using ocean-atmosphere coupled model. A storm surge prediction model for estimating inland inundation in Andhra coast was developed and a seven component Nitrogen-based Ecosystem Model completed.

SATELLITE COASTAL AND OCEANOGRAPHIC RESEARCH

The project envisages development of algorithms and models for retrieval of met-ocean parameters, i.e., sea surface temperature, winds, waves, bathymetry, suspended matter, mixed layer depth, chlorophyll, aerosol, water vapour, clouds, currents and sea level from satellite sensors. The data-assimilation models on waves and ocean circulation would also be developed. During the year, development of retrieval algorithms and validation of Sea Surface Temperature and waves from ERS-1 was completed which includes customization of the software. Studies on latent heat flux and eddies would be completed from ERS and Altimeter, respectively. Development of software for estimation of coastal bathymetry from SAR and Altimeters was completed.

MARINE RESEARCH AND CAPACITY BUILDING

The Department of Ocean Development lays special emphasis on encouraging basic and applied research in ocean related subjects. The focus is on assisting the Universities and on building up a skilled human resource base in Marine Sciences. The objective of this programme is to encourage research in newly emerging and front line areas of Coastal Engineering, Marine Chemistry, Marine Biology and Microbiology, Pharmacology, Coastal Zone Management, Exploration and Exploitation of Marine Resources, etc.; to create infrastructure facilities in Universities and to inculcate scientific temper among the people on Ocean Science.

For promotion of front-ranking research in Ocean Science & Technology and related human resources development, Ocean Science & Technology Cells (OSTCs) have been set up in the following disciplines at nine centres: (i) Marine Microbiology-Goa University, Goa; (ii) Marine Coastal Ecology (E. Coast)-Berhampur University, Berhampur; (iii) Marine Coastal Ecology (W. Coast)-Bhavnagar University, Bhavanagar; (iv) Marine Geology and Geophysics-Mangalore University, Mangalore; (v) Coastal Marine Culture System-Andhra University, Visakhapatnam; (vi) Beach Placers-Tamil University, Tanjore; (vii) Marine Biology-Annamalai University, Parangipettai; (viii) Marine Benthos-Cochin University of S & T, Kochi; and (ix) Ocean Engineering & Underwater Robotics-IIT, Kharagpur.

COASTAL COMMUNITY PROGRAMMES

SHORE TO FISHING VESSEL COMMUNICATION SYSTEM

For demonstrating the usefulness of communication system to the fisherfolk

who are at sea, shore stations were set up in seven places viz., Shankarpur and Frasergunj in West Bengal, Paradeep and Chandipur in Orissa, Salegao in North Goa and Periya Veerampattinam in Pondicherry. Out of these, four centres in West Bengal and Orissa were operationalised. Construction of shore stations and erection of towers/mast for fixing antenna in Andaman & Nicobar Islands is in progress.

ISLAND DEVELOPMENT

The National Institute of Ocean Technology (NIOT), Chennai has taken up new initiatives towards helping island communities in their needs relating to Ocean Science and Technology as well as marine resource enhancement. The first activity taken up by NIOT is a programme on lobster resource enhancement for islands under the DOD project on Living Marine Resources Enhancement (LMRE). The programme on lobster resource enhancement is already underway by utilising the hatchery facility of Tamil Nadu Fisheries Development Corporation (TNFDC) available at Neelankarai, Chennai. Several experiments have already been carried out in the following areas : (a) Fattening of spiny lobster *Panulirus homarus* using different live feeds (mussels and clams); (b) Biochemical analysis of lobsters and live feeds; (c) Water quality and disease management; (d) Spawning and larval rearing; and (e) Survey of lobster resources in Gulf of Mannar and Andaman Islands.

INTERNATIONAL PROGRAMMES

COMNAP/SCALOP MEETINGS

After becoming a member of the Antarctic Treaty, India hosted the 11th meeting of the Council of Managers of National Antarctic Programme (COMNAP) & Standing Committee of Antarctic and Logistic Operations (SCALOP) and the executive meeting of the Scientific Committee of Antarctic Research (SCAR), at Goa from 19-24 September 1999. Eighty delegates from all the consultative party countries attended the meeting.

COMMISSION FOR CONSERVATION OF ANTARCTIC MARINE LIVING RESOURCES

The Commission for Conservation of Antarctic Marine Living Resources (CCAMLR), an intergovernmental organisation under the Antarctic Treaty System with 23 member countries and six state parties to the Convention, sets guidelines for optimum exploitation of living resources of Antarctic waters based on an ecosystem approach. India chaired the 18th meeting of CCAMLR at Hobart, Australia from 25 October to 5 November 1999. The need for CCAMLR to exert effective control over fishing activities taking place in contravention of the Convention or of the spirit in which it was negotiated was highlighted by India in the meeting.

INTER-GOVERNMENTAL OCEANOGRAPHIC COMMISSION

Established in 1960 under UNESCO, the Inter-governmental Oceanographic Commission (IOC) is promoting global co-operation in marine scientific

investigations, ocean services and capacity building in developing countries through the concerted efforts of all the 127 member states. India a member of IOC and presently a member on its Executive Council is contributing to the growth of oceanographic research and services.

The IOC Committee for Central Indian Ocean (IOCINDIO) Regional Workshop and WMO/IOC Regional Meeting on the proposal on Storm Surge Disaster Reduction in the Northern Part of the Indian Ocean, was organised during 20 - 26 October 1999 in New Delhi. The workshop was convened by World Meteorological Organisation and Intergovernmental Oceanographic Commission with a view to considering the draft proposal by the member countries in the Northern Indian Ocean. The Committee recommended setting up of a Regional Project Office in Delhi, for implementation of the project. The third session of IOCINDIO was held during 21-23 February 2000 at Tehran.

Seventh Session of the UN Commission on Sustainable Development: The Seventh Session of UN Commission on Sustainable Development (CSD) was held at New York during 19-30 April 1999. The major theme covered was "Ocean and Seas". The major issues discussed included ocean's governance, subsidies in the fishery sector, banning of the use of persistent organic pollutants, eco-labelling, controlling the use of harmful anti-fouling paints, etc.

NATIONAL INSTITUTE OF OCEAN TECHNOLOGY

National Institute of Ocean Technology (NIOT) at Chennai was established in 1993. NIOT's activities are in the areas of Ocean Energy, Deep-sea mining, Coastal and Environmental Engineering and Marine Instrumentation. Two pioneering projects are in the area of mining technology demonstration and design and installation of 1 MW floating OTEC pilot plant. A new activity of NIOT is the provision of Science and technology inputs for the island communities. Other operational programmes handled by NIOT are National Data Buoy Programme (NDBP) and Operation and Management of Coastal Research Vessels owned by DOD.

NATIONAL CENTRE FOR ANTARCTIC & OCEAN RESEARCH

In order to consolidate the gains accrued from the Antarctic expeditions and to stimulate research in the frontier area of polar science, the National Centre for Antarctic & Ocean Research (NCAOR), Vasco, Goa; (formerly Antarctic Study Centre), has been established as an autonomous society of the Department of Ocean Development with effect from 25 May 1998. The institute has a focussed scientific mandate confined to undertaking research in those areas of polar science in the years to come, which otherwise are not being pursued in other institutions or laboratories in the country. The scientific infrastructure and expertise will specifically be developed in the areas of palaeo-climate and palaeo-environment studies through analysis of ice and sediment cores; sea-ice atmosphere interaction; climate modelling through polar remote sensing; oceanography of the southern oceans; and

cryobiology & environmental physiology. The Goa University and Mangalore University have already recognised NCAOR as a research centre for academic pursuit leading to doctoral degrees in polar science. The mandate of the NCAOR is, to plan, promote, co-ordinate and execute polar science and logistic activities of the country in order to ensure a perceptible and influential presence of India in Antarctica and uphold its interests in the global framework of nations in the southern continent and the surrounding oceans.

BIOTECHNOLOGY

The revolutionary developments in DNA technology, the work on human genome and related areas have opened up immense possibilities for the benefit of man. We now have tools to produce designer species. The setting up of a separate Department of Biotechnology, under the Ministry of Science and Technology in 1986 gave a new impetus to the development of biotechnology in India. The Department has speeded up development of biotechnology in the country through more than 1,000 R&D projects, demonstrations and creation of infrastructural facilities. Biotechnology-related developments in agriculture, health care, environment and industry are now culminating in products and processes. Publishing of quality research papers, development of a skill-pool in biotechnology, technology transfer, national and international patents are some of the noteworthy achievements of the Department of Biotechnology (DBT). DBT has been interacting with more than 5,000 scientists every year in order to utilise the expertise of the universities and other national laboratories. A very strong peer reviewing and monitoring mechanism has been evolved. There has been close interaction with the State Governments particularly through State S and T Councils for developing biotechnology application projects, demonstration of proven technologies, and training of human resource. Programmes have been evolved with the states of Gujarat, Rajasthan, Madhya Pradesh, Orissa, West Bengal, Haryana, Punjab, Jammu & Kashmir, Mizoram, Andhra Pradesh and Uttar Pradesh.

HUMAN RESOURCE DEVELOPMENT

To generate trained personnel in the area of biotechnology, an integrated HRD Programme has been implemented. The post-graduate, post-doctoral, post-MD/MS training programmes are being implemented in about 50 institutions. Around 500 students are admitted annually. Every year 20-25 Overseas Associateships and about 15 National Associateships are awarded for research in frontier areas of biotechnology. Other programmes supported every year include seminars and symposia, popular lectures and short-term training courses. Awards are given to eminent scientists/researchers for promotion of research in biotechnology. Up to 10 National Bioscience awards for career development have been instituted for young bioscientists below the age of 45 years and three awards for women scientists have also been instituted. The Department also participated in various exhibitions, both in India and abroad.

BIOTECHNOLOGY FACILITIES

In most advanced areas of modern biology and biotechnology, infrastructure facilities have provided a boost for R&D and Services. The National Facility for Microbial Type Culture Collection (MTCC) at the Institute of Microbial Technology, Chandigarh, which conserves more than 10,000 industrial microbes is being upgraded to the level of International Depository Authority; National Facility for Blue Green Algae (BGA) Collection at Indian Agricultural Research Institute, New Delhi has about 750 blue green algae; National Facility for Marine Cyanobacteria at Bharatidasan University, Trichurapalli stores more than 300 strains of marine cyanobacteria collected from Indian sea shores; National Facility for Plant Tissue Culture Repository at NBPGR, Pusa, New Delhi has 850 *in vitro* conserved crop species; Laboratory Animal House Facilities at Central Drug Research Institute (CDRI), Lucknow and National Institute of Nutrition (NIN), Hyderabad have supplied 85,000 and 58,000 experimental animals respectively; Centre for Genetic Engineering and strain manipulation at Madurai Kamraj University, works on streptomycin group of antibiotics; and the Biochemical Engineering Research and Process Development Centre at IMTECH, Chandigarh helps in testing and standardisation of high-value metabolites in large bioreactors for commercial feasibility studies. The new repositories, namely, Repository on Cryopreservation of blood cells at Indian Institute of Haematology, Mumbai, Repository on Medicinal and Aromatic Plant materials at Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow and Repository on Filaria and reagents, MGIMS, Sevagram have been functioning since 1997 on similar lines. A repository on drosophila has been strengthened to develop educational sets for demonstrating genetic experiments in schools and colleges. Thousands of scientists, students, and industries are regularly indenting the services of these facilities.

Under the programme support scheme, grants are provided for establishment of programme-based facilities and centres of excellence in various areas of advanced biotechnology and modern biology. Such centres undertake basic research in modern biology leading to specific products and processes through a team work and also serve as National infrastructure facility extending services to the scientific community. At the Indian Institute of Science, Bangalore a major programme support in the high priority areas of modern biology was launched for a period of five years involving 55 faculty members to carry out research on three sub-programmes: infectious diseases, drug and molecular design as well as genome diversity and genetic disorders. Another programme support at Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram is undertaking basic research in priority areas, viz., infectious diseases, animal biotechnology, environmental biotechnology, genetic disease and molecular basis of biological functioning. The programme support is expected to deliver products/processes such as reagents of permanent value for disease diagnosis, prevention, prophylaxis, drug designing and therapeutics for genetic disorders.

BIOTECHNOLOGY INFORMATION SYSTEM NETWORK

To fulfill the growing need for latest information, a Biotechnology Information System Network (BTISnet) has been established. It works as a distributed database and network organisation to provide integrated information resource on all aspects of Biotechnology. The BTISnet provides bio-informatics and biocomputing services to the researchers and for manufacturing activities. The services include analysis of biological data, bibliographic information on published literature, software development for computationally intensive problems in biology such as molecular modelling and simulation, genome mapping, structure-function determination, structure-based drug design, structure alignment and comparison, structure prediction, molecular evolution, gene identification, etc. The BTISnet comprises eleven Distributed Information Centres (DICs) and forty-two Distributed Information Sub Centres (DISCs) spread across the country at various institutions and universities. The Apex Biotechnology Information Centre at the department coordinates the activities of the network. A Biotechnology Patents facilitating Cell has been established as part of the BTIC to promote patenting in Biotechnology. The DICs are networked through Ku-Band/IP-Advantage VSATs of NIC NET for the high speed communication connectivity to Internet as well as BTISnet. The Major International databases such as EMBnet, PDB, GDB, Plant Genome Databases and public domain Biotechnology Software are mirrored in India for the benefit of researchers. These databases will act as knowledge pathways for discoveries in modern biology and biotechnology. To generate manpower in bioinformatics, advanced one year Post diploma courses in Bioinformatics are being conducted at Madurai Kamaraj University, University of Pune, Calcutta University and Jawaharlal Nehru University.

In the area of molecular and structural biology, six national facilities have been established on Interactive Graphics based on molecular modelling at the Indian Institute of Science, Bangalore, Madurai Kamaraj University, Madurai, Centre for Cellular and Molecular Biology, Hyderabad, University of Pune, Pune, Bose Institute, Calcutta and Jawaharlal Nehru University, New Delhi. These facilities provide Silicon Graphics based high-performance computing environment for molecular visualization to researchers in modern biology, biotechnology. R&D projects leading to development of hardware and software solutions/tools for biologists have also been funded. An indigenous software package for molecular modelling on a PC based desktop computer has been developed by C-DAC to provide an economically priced package for use by students in colleges/homes. The DIC at JNU, New Delhi has developed a sequence analysis Software package (Gene Scan) for the benefit of the scientific community. A Website on the activities of the Department of Biotechnology with an URL HYPERLINK <http://www.nic.in/dbt> has been hosted on Internet.

NATIONAL JAI VIGYAN S&T MISSIONS

(1) New generation vaccines for infectious diseases. The objective of the

programme is generation of candidate vaccine(s) for diseases like cholera, rabies, Japanese encephalitis, tuberculosis, malaria and HIV; (ii) Biotechnological approaches for coffee improvement: A Network Programme is underway on Coffee Biotechnology to improve all aspects related to Coffee improvement using molecular biology tools; (iii) Biotechnological approaches towards herbal product development: The project aims at development of value-added herbal drugs from the leads already available from the traditional system of medicine. The end-products would be: two immunomodulators, improved strain of *Artemisia spp*, anti-arthritis agent and improved ergot production technology; and (iv) Mirror sites for genomic research: The programme provides the tools for genomic research based on the increasing convergence of trends and dependence of genomic research on bioinformatics by setting up mirror sites of protein (PDB) and genome (GDB) database, plant genome databases, databases of EBI, electronic databases and software in public domain for biological research.

CROP BIOTECHNOLOGY

To enhance food productivity and ensure nutritional quality, genetic engineering methods in producing transgenics with desired traits are assuming enormous significance world-wide. India has recently joined the International Rice Genome Sequencing Programme (IRGSP) in collaboration with ICAR to sequence chromosome number 11. This chromosome has been chosen because it carries genes for a number of very important agronomic traits. The project would help accumulate fundamental data, the application of which will help produce genetically modified rice plants having desirable traits like improved plant architecture, high grain yield, better quality, resistance against pests and diseases and improved adaptability to environmental stress like drought.

BIOFERTILIZERS

To understand the basic mechanism of Nitrogen Fixation, which will help in technology development, a number of projects were supported on crop specific biofertilisers. High Nitrogen fixing strains of Blue green algae, *Rhizobium*, *Acetobacter*, *Azospirillum* and *Azotobacter* and high phosphate solubilising *Mycorrhiza* have been isolated and demonstrated in field conditions. A number of technologies for mass production of various biofertilisers have been developed and transferred for commercialization. Mass production of AM fungi technology which is suitable for almost all crops is an example.

BIOCONTROL AGENTS

Eight new bio-pesticides have been developed and two pilot plants are producing bio-control agents for use by the farmers, catering to the needs of about 0.224 million ha. An area of 60,000 ha. has been covered in various field crops for demonstrating the use of bio-control agents. About 30,000 farmers benefited by attending the on-site training programmes and extension activities. The technologies for mass production of candidate biocontrol agents-baculovirus, parasites, predators, antagonistics, fungi and bacteria for

economically important crops have been transferred to industries.

TREE AND WOODY SPECIES-TISSUE CULTURE

Through the tissue culture pilot plants at National Chemical Laboratory (NCL), Pune and Tata Energy Research Institute, (TERI), New Delhi, nearly six million plant-lets of eucalyptus, poplar, teak, bamboo and desert teak have been field demonstrated in 17 states. Micro-propagation technology parks established at these pilot plants are serving as platform for effective transfer of technology; training of manpower and demonstration of technology for mass multiplication of horticulture and forestry species. Technologies for 20 species have been perfected and 10 technologies have been transferred to industry for commercialisation.

BIOPROSPECTING

India is a mega diversity centre and has enormous biological wealth with two hot spots in the north-east Himalayas and south-western Ghats. In view of the immense biological wealth marked by the eco-system, species and genetic diversity which constitute potential resource base for bioprospecting and sustainable development, a multi-institutional collaborative programme has been evolved for characterisation, inventorisation and conservation of the bio-diversity of different eco-geographical regions and prospecting of genes and bio-molecules. The programme initiated in October 1997 involves nine major and four collaborating institutions. The Department of Space has been very closely associated in the remote sensing and satellite imaging of the identified areas. Vegetation mapping has been completed for two states. Important species such as *Taxus* and *Rhodendron* are also being mapped.

MEDICINAL AND AROMATIC SPECIES

The efforts have been made for conservation of the genetic wealth and improvement of medicinal plants/products through the intervention of biotechnology. Four National Gene Banks have been established at Tropical Botanical Garden and Research Institute, Thiruvananthapuram, National Bureau of Plant Genetic Resources, New Delhi, CIMAP, Lucknow, and at RRL, Jammu for the conservation of the rich germplasm wealth in respect of medicinal and aromatic species. These are equipped with field banks, seed banks and *in vitro/cryo*-preservation facilities. The Department of Biotechnology is the nodal agency for the establishment of a network of gene banks among G-15 countries. It is also co-ordinating the work of Asian Region and is the over all co-ordinator for the programme. The DBT published the first four numbers of the network newsletter. Besides, inventories of medicinal and aromatic plants of India and Indonesia have been brought out. Asian region inventory of medicinal and aromatic plants and polyherbal formulations have also been brought out. A study of the immunomodulatory agents from certain plants reputed in Ayurveda has resulted in the isolation and purification of biologically active compounds from *Piper*

longum and *Tinospora cardigolia* with immunomodulatory activity.

SERIBIOTECHNOLOGY

The Department in association with the Central Silk Board (CSB) has identified thrust areas in sericulture (both mulberry and non-mulberry) in which biotechnology can play a vital role in increasing productivity, enhancing the quality of silk and bringing about improvement of host plants. Towards the integrated management to control uzifly, a serious pest of silkworm, it was demonstrated that two components, viz., spraying benzoic acid and release of an insect parasitoid, can be successfully integrated for the effective suppression of uzi menace at farmer's level. Immunodiagnostic tests have been developed for early detection of pebrine and nuclear polyhedrosis disease of silkworm. Large scale field evaluation of these tests are being carried out to make them more specific and sensitive. Several artificial diet formulations for rearing of silkworm larvae have been developed and are being tested at laboratory level. For construction of the molecular genetic map, a silkworm genome project has been initiated.

ANIMAL BIOTECHNOLOGY

Programmes are underway on development of transgenics, nutrition, disease diagnostics and vaccine development, genetic characterisation, indigenous breeds and utilisation of animal byproducts. Several lines of transgenic mice have been developed using Interleukin-2 gene, Neomycin resistant gene, Hepatitis B-virus x gene, Hepatitis B-virus x-mycgene, 5HT 1 A gene and green fluorescent protein gene. The expression of these genes in successive generations is being analysed. Embryo transfer technology in camel was standardised and two ET camel calves were born at National Research Centre on camel, Bikaner. Recombinant Ovine Growth hormone (OGH) for use in farm animals has been produced in high amounts in a bacterial expression system.

The production of rabies vaccine, using PV-11 seed virus for animals, was standardised in a microcarrier system and its sterility, toxicity, identity, potency, etc., tested as per WHO guidelines. Efforts are also being made to generate a recombinant vaccine against anthrax. The expression of recombinant dog zona pellucida glycoproteins was optimised in a fermentor to obtain higher yield of the recombinant protein. These are being evaluated for their efficacy to regulate fertility in dogs. The technology of Infectious Bovine Rhinotrachietis vaccine for cattle was transferred to the industry (Hoechst Roussel Vet. Limited). Efforts are on to develop diagnostics for Blue Tongue virus disease, PPR virus disease, mycobacterial infection in cattle, etc.

Nutrition is one of the most important components in livestock production in India since feed resources are inadequate in both quality and quantity. A multicentric programme has been launched for improving rumen fermentation, development of novel reactor and genetic manipulation of microbes for enhanced ligninase expression. These efforts will be able to increase the

nutritive value of agro wastes. Efforts are on to utilise slaughter-house waste serum as a protein binder. Procedures for isolation of two hydrolase enzymes viz., pig liver esterase and pig pancreatic lipase have been developed from slaughter house blood.

AQUACULTURE AND MARINE BIOTECHNOLOGY

The emphasis on R&D in Aquaculture has been towards production and productivity enhancement. Projects on development of genetic markers for strain identification, disease resistant transgenic fish, establishment of cell and tissue culture system in aquatic species and development of freshwater prawn hatchery have registered good progress. The research for development of PCR based diagnostics for shrimp diseases (white spot) is leading to a kit which can be used in the field.

BIODIVERSITY CONSERVATION AND ENVIRONMENT

To facilitate absorption and utilisation of technology, emphasis is laid on involvement of user industry from the beginning and demonstration of technologies developed at the site of industry. In over a dozen projects, a number of industries are involved in process development, process optimization, validation and sharing of funds. Significant achievements are as follows :

Ecorestoration of mine spoil dumps : In a project at Delhi University, ecological restoration technology was devised and worked out successfully in revegetating limestone belt of Bhatta and Lambadar region near Mussorie and was replicated in Bhatti and Asola Mines in Delhi. Within five years, the entire rocky terrain was transformed into a lush green forest with grasses and lagoons.

Palm oil mill effluent treatment : In a collaborative project between CBT, New Delhi and NCL, Pune, laboratory level process for treatment of palm oil mill effluent from M/s Karnataka Oswal Oil Palm Limited, Bangalore has been standardised. The process generates biogas from effluent @ about 300 liters per kilo dry matter which can be captively used by the factory for the energy needs. The waste water from the biogas plant is further treated. Efforts are on to set up a pilot scale trial on turn key basis. The quantity of waste for the trial will be 1,000 liters per day.

Bioremediation of soil contaminated with chlorinated pesticides : An initiative was taken to assess the status of research progress made in this area and to evolve a strategy to deal with this problem.

Dye industry effluent treatment : At Jaipur University, process for dye wastewater treatment has been standardised using wetland technology. The treated waste water had no adverse effect on the growth of most susceptible aquatic plant species as Azolla, Hydrilla, and Spirodela including cultivated ones as Cymopsis.

In a project at RRL, Thiruvananthapuram, screening of consortia grown in textile effluent of Tirupur area resulted in the isolation of four

fungi and four bacterial colonies. The degradation of 15 textile dyes mainly sulfonated azo dyes were also carried out by two bacteria and two fungi. In a project at University of Madras, a microbial consortia has been developed with broad degradative potential along with a carrier system comprising extra cellular polysaccharides.

Petroleum sludge degradation : In a project at TERI, New Delhi, very efficient crude oil and oily sludge degrading bacterial consortium and pure bacterial strains have been selected. Eight different carrier materials have been tested for immobilization of selected crude oil and oily sludge degrading bacterial strains. Contaminated land at the site of two oil refineries (Mathura & Barauni) has been selected and application of carrier based materials at contaminated sites led to complete mineralisation of hydrocarbons and restoration of the contaminated sites. Experiments are on at Digboi refinery and BPCL Refinery, Mumbai.

In a project at Goa University, studies are being conducted in the fields of Bioremediation of oil spills and tarballs using bacterial consortia. Horizontal gene transfer constituted studies to determine the extent of gene transfer between the bacterial species in microcosm.

Germplasm Characterisation : In a project at TERI, New Delhi, genetic diversity has been estimated through AFLP markers in 37 neem accessions from different eco-geographic regions of India and four exotic lines from Thailand. The cluster analysis indicated that neem germplasm within India constituted a broad genetic base. The Indian genotypes were more dispersed on the principal correspondence plot indicating a wide genetic base. The four lines from Thailand, on the other hand, formed a narrow genetic base.

In a project at IHBT, Palampur, DNA fingerprinting of *Artemisia* species has been carried out using 10 more primers of OPA series have been screened. RAPD patterns of 20 more accessions of *Artemisia* spp. are to be obtained to get a clear-cut picture. In another project at IHBT, Palampur, PI has characterised 27 important diverse clones of tea using RAPD and RFLP analysis.

A collaborative proposal on "Conservation of Endangered Animals", with CCMB, Hyderabad; Nehru Zoological Park, Hyderabad and Andhra Pradesh State Forest Department has been supported to work on lion and tiger and establish a gene bank and a semen bank.

MEDICAL BIOTECHNOLOGY

The focus has been on understanding the molecular mechanism of disease. The programmes have been designed for developing newer diagnostics, vaccines, new drug delivery systems and providing genetic counselling for genetic disorders. Basic research programmes are related to developing candidate recombinant vaccines, DNA vaccines, genetically modified organisms as vaccinogen, recombinant reagents for diagnostics, molecular probes for emerging and reemerging infections and noncommunicable disorders, molecular

probes for pre-natal diagnosis of genetic disorders, newer drug targets and developing edible vaccine and transgenic animals for bio-medical and pharmaceutical research.

Anti Leprosy Vaccine : This vaccine is based on the use of *Mycobacterium* MW and has been developed by the National Institute of Immunology, New Delhi. The vaccine has been found to be effective as an immune therapeutic agent to be given along with multi drug therapy for leprosy patients. The vaccine is now available as Leprovac in the market.

Anti Cholera Vaccine : This candidate vaccine has proved very efficacious in experimental model and vaccination has lead to right type of immunity with no reactogenecity in animals.

Anti Fertility Vaccine : The anti-fertility vaccine based on B hcG to control fertility in women had earlier undergone Phase-II as well as extended Phase-II human volunteer clinical trials. About 60 per cent of the women who received this vaccine developed specific antibodies at desired levels.

Anti Rota Viral Diarrhoeal vaccine : Two strains of rota virus have been isolated and characterised by AIIMS, New Delhi and IISC, Bangalore. This study has been carried out under Indo-US vaccine action programme.

Japanese Encephalities (JE) Candidate Vaccine : Efforts are now being made to produce a candidate vaccine as a replacement for the mouse brain JE vaccine. In addition, a candidate DNA vaccine has also been identified.

Anti Rabies Vaccine : A DNA sequence has been identified for its potential use as a vaccine for control of rabies in animals and subsequently in treatment of human beings.

Anti Tuberculosis Vaccine : Since existing BCG has variable degrees of protection especially in southern states of India, a recombinant BCG carrying a gene for *M. tuberculosis* has been developed. Its immunogenicity and efficacy in animals are being assessed.

Anti Malaria Vaccine : Two significant candidate vaccines are being followed up. One of them is based on nine different stages of *Plasmodium falciparum*. The same has been expressed in a Baculovirus expression system. The recombinant proteins have been shown to produce the immune response in animals. The second candidate vaccine, i.e., peptide which is common to *P.falciparum* and *P.vivax* has been found to elicit appropriate immune response in animals. This peptide has been found to have no side effects.

Vaccine Production : During 1999-2000, the Bharat Immunological and Biologicals Corporation Limited, formulated 175 million doses of OPV, a part of which was supplied to UNICEF.

Diagnostics : The basic approach has been to develop easy-to-use, affordable and accurate test systems for Indian strains, which can be converted

into appropriate kits with the help of industries for large-scale use. After reaching the level of prototype systems, the department is presently making efforts to upscale these technologies with the help of industries. These technologies are IgM Mac ELISA for Dengue, JE and West Nile, haemagglutination of erythrocytes carrying 9-0 - acylated derivatives of sialic acid for Kala Azar, PCR for tuberculosis, LDH based test system for malaria, IFA for rabies, DAT for toxoplasmosis, ELISAs for reproductive hormones, test system for alpha-fetoproteins, acute lymphocytic leukaemia and species specific diagnostic for snake bites.

HUMAN GENETICS AND GENOME ANALYSIS

The "Human Genetics & Genome Analysis" programme was initiated during 1994 for diagnosis, prevention and management of genetic disorders in the country. Fourteen genetic diagnosis-cum-counselling units have been providing molecular diagnosis and counselling for the common genetic disorders. The project on functional genomics implemented at CBT, Delhi, conducted studies related to, genomic instability, trinucleotide repeat expansion and neurodegenerative disorder. Human Genome Diversity project has been implemented as a collaborative project at ISI, IICB and SINP, Calcutta. Blood samples with appropriate informed consent from unrelated individuals belonging to several population groups of eastern India were collected. Standardisation of protocols for genotyping about 20 DNA marker loci has been completed.

FOOD BIOTECHNOLOGY

Efforts are under way for commissioning of pilot plants for large scale production of low cost nutrient food supplements developed through biotechnological processes. Several leads were obtained for rapid diagnosis of various food borne pathogens like *Salmonella* sp. *Bacillus cereus*, *Shigella* sp. and Rotavirus. A lead has been obtained for prevention of Rotavirus diarrhoea in children below two years of age, by use of Rota colostrum as a baby food supplement. Technologies for debittering of citrus juices are being perfected. Various tribal mushroom species have been screened for their edibility, protocols are being developed for their large-scale production. A rapid immunological diagnostic test is being developed for detection of argemone contamination in edible mustard oil.

MICROBIAL AND INDUSTRIAL BIOTECHNOLOGY

Microbial biodiversity programme has been initiated at 14 centres, covering various ecological aspects and geographical locations of the country. To meet the increased oxygen demand, efforts are under way to clone and express bacterial haemoglobin protein gene in *Streptomyces* species. Microbial leaching of ores using mesophilic and thermophilic organisms revealed a better extraction efficiency by the latter. Several microbial strains have been isolated. The reduction in the Chemical Oxygen Demand load especially chromium was achieved while investigating several tolerant alkaphilic

Actinomycetes spp. A microbial polysaccharide, gellan was produced in high concentration using *Sphingomonas* spp. Efficient microbial conversion of acrylonitrile into acrylamide was achieved.

INTELLECTUAL PROPERTY RIGHTS

The Biotechnology Patent Facilitating Cell (BPTC) serves to provide the mechanism for a single window Patent facilitation for all inventions arising from the DBT funded projects. It organised National Roving Seminars on 'Patenting in Biotechnology' at Jaipur, Lucknow, Thiruvananthapuram and Guwahati which were attended by more than 600 scientists. The BPTC also brought out two publications entitled 'Biotechnology Patent Facilitating Cell' and 'Patenting in Biotechnology - Patent information on Internet'. So far BPTC has considered 13 new patent applications, including five patent applications from DBT projects in CSIR laboratories. Out of 61 patent applications received by the department 30 applications are under different stages of processing.

BIOPRODUCTS

In association with the Department of Electronics two inter-departmental projects made good progress. One is on the development of novel electroporation equipment and the other is for a system for sterilizing hospital wastes using microwave technology. In an industry - institute collaborating project, a naked eye visible agglutination assay for ascertaining the HIV infective status of human was developed, and the technology is under transfer to industry. Plastic wares suitable for biotech research were developed in different forms like vials, tubes and micropipette tips. Wettable polystyrene plates suitable for cell culture and ELISA plates to substitute the imported ones have been developed.

BIOSAFETY ISSUES

Biosafety protocols and guidelines have been fully incorporated in contained field experiments using genetically modified plants of cotton, Indian mustard and other crops. Substantial information has been generated on two transgenic crops based on experiments conducted in Indian environment. Specialists inspected the transgenic experimental plots. Several recombinant DNA drugs intended for commercial use were also reviewed.

BIOTECHNOLOGY BASED PROGRAMMES FOR WEAKER SECTIONS

Under the programme, projects are funded to universities, governmental institutions, voluntary and non-governmental organisations for transferring proven biotechnological process and techniques through training, demonstrations and extension oriented activities with the participation of the targeted group of people. The programme facilitates SC/ST people to increase their skills, create additional job avenues for themselves and help in improving their health status. Forty three projects in the area of biofertilisers, biopesticides, sericulture, aquaculture, mushroom cultivation, floriculture, animal husbandry, cultivation of medicinal and economically important plants, biogas production,

utilisation of marine resources, formulation of herbal products, etc., were pursued in 19 States and UTs benefitting nearly 15,000 people.

INTERNATIONAL COLLABORATION

The ongoing bilateral programmes with Germany, Israel, Switzerland, Sweden, UK and USA have progressed well. New programmes are being developed with these countries and other countries including Egypt, France, Japan, Khazakistan, Poland, Russia, Sri Lanka and Tunisia. Interactions have been made with Australia, Brazil, Hungary, Mexico, Norway, Romania, Slovenia and Belarus. A joint Centre for Biotechnology is being set up under Indo-Russia collaboration. Under Indo-US collaboration, 10 new projects have been recommended. Multilateral programmes continued among SAARC and ASEAN countries.

INSTITUTIONS DEVOTED TO BIOTECHNOLOGY

National Institute of Immunology (NII), New Delhi : The Institute follows a two-pronged strategy of linking excellence in fundamental research with the pragmatic pursuit of application possibilities in entrepreneurial partnerships. The major areas of research are: Immunity and Infection, Gene Regulation, Molecular Design, Reproduction and Development. The institute has been able to sequence the complete genome of an Indian isolate of *JEV* (GP78). It revealed its evolutionary closeness to the Chinese *SA14* isolate. A method to grow *JEV* to high titres in tissue culture was successfully adapted to help in large-scale production of the viral vaccine. A novel immunomodulatory use of an Indian medicinal plant product (*NII-60*) to prevent septic shock received a US patent and was transferred to an Indian pharmaceutical company for commercialisation. Another product, *NII-70*, showing positive effects on hemopoiesis also received patent protection in USA and is being developed in collaboration with a French company for commercialisation.

National Centre for Cell Science (NCCS), Pune : National Centre for Cell Science has been functional in three important areas: (i) as a national repository of animal cell cultures, (ii) in extending infrastructural facilities to researchers and (iii) in carrying out research in the area of cell sciences. The cell repository has a collection of 1,127 cell lines derived from 25 different species including hybridomas. During the year, 390 cell cultures comprising 384 different cell lines were supplied to 384 research institutions in the country. Studies have indicated that the bone marrow-derived factor induces cellular migration of breast adenocarcinoma cell *in vitro*. An active component, a 55-kDa protein, has been identified. The DNA clone has been recently sequenced and shows no homology to any of the known oncogenes implying that it is a novel oncogene.

The National Brain Research Centre (NBRC), New Delhi : This autonomous centre of the department was registered as a society in June 1999. The Centre will undertake basic research to understand brain function in disease and

normal conditions. The networking would involve forming new linkages between various laboratories working in the field of neuroscience. As a part of the inaugural activities of the NBRC, an International Colloquium on Brain Research' was organised by NBRC in New Delhi. This colloquium focussed on the emerging areas of neuroscience. During the colloquium, a joint Statement was signed between the National Institute of Mental Health (NIMH), USA and NBRC for undertaking scientific collaborations. A similar agreement was also signed with the RIKEN Brain Science Institute, Japan.

Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad : The Centre received 155 cases comprising of paternity disputes, identification, rape, murder and other crimes. MOU have been entered into with two State Forensic Laboratories. For DNA diagnosis of various genetic disorders, the Centre received 409 cases and 129 cases for chromosomal diagnosis. The bioinformatics facility is fully functional with several databases. Fundamental research has also been initiated to sequence the genome of silk worm and for molecular analysis of *Mycobacterium tuberculosis*. An advanced training course on DNA Fingerprinting was held during the year.

National Centre for Plant Genome Research : This has been established at Jawaharlal Nehru University, New Delhi by upgrading the existing infrastructure and expertise. The primary objective is to do both fundamental and applied research on identified aspects of plant genome in order to isolate important genes and manipulate these for generating transgenic plants with improved agronomic characters and pathogens/stress resistance.

National Bioresource Development Board, New Delhi : The Government has approved the establishment of a National Bioresource Development Board (NBDB). The objective of NBDB is sustainable utilisation of biodiversity of the country. The Board has taken up programmes for preparation of digitised inventory of the bioresources as well as special programmes for specific regions of the country.

8 Environment

THE Ministry of Environment and Forests serves as the focal point in the administrative structure of the Government of India for the planning, promotion, coordination and overseeing the implementation of the various environmental and forestry programmes. The Ministry has also been designated as the nodal agency in the country for the United Nations Environment Programme (UNEP), International Centre for Integrated Mountain Development (ICIMOD) and looks after the follow-up of the United Nations' Conference on Environment and Development (UNCED).

Conservation and survey of flora, fauna, forests and wildlife, prevention and control of pollution, afforestation and regeneration of degraded areas and protection of environment, are the mandates of the Ministry. These objectives are well supported by legislative and regulatory measures, aimed at the preservation and protection of the environment. Some of them are the Air (Prevention and Control of Pollution) Act, 1981, the Water (Prevention and Control of Pollution) Act, 1974, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, the National Environment Tribunal Act, 1995, the National Environment Appellate Authority Act, 1997, Wildlife Protection act, 1972 and Forests (Conservation) Act, 1980. Besides the legislative measures, a National Conservation Strategy and Policy Statement on Environment and Development, 1992, National Forest Policy, 1988 and a Policy Statement on Abatement of Pollution, 1992 have also been evolved.

SURVEY OF NATURAL RESOURCES

The Botanical Survey of India (BSI), established in 1890, is responsible for surveying and identifying the plant resources of the country. With its headquarters at Calcutta and nine circles located in different regions of the country, the BSI undertakes exploration tours of the country regularly and the results of such tours are published in the form of national, state and district flora.

Established in 1916, the Zoological Survey of India (ZSI) is responsible for carrying out survey and inventorisation of the faunal resources of the country. While the headquarters of the Zoological Survey of India is at Calcutta, it has 16 regional stations located in different parts of the country. ZSI also undertakes regular faunistic survey tours of the entire country.

The Forest Survey of India (FSI) was established in 1981. Besides the headquarters at Dehra Dun, FSI has four regional offices located at Bangalore, Calcutta, Nagpur and Shimla. It prepares thematic maps on 1:50,000 scale and forest vegetation maps on 1:2,50,000 scale of the country. The thematic maps are prepared for the entire country on a ten-year cycle. The vegetation maps are prepared on a two-year cycle for the entire country. The State of Forest

Report, 1997 is the sixth report in the series of biennial reports published by the FSI since 1987 and presents a comprehensive account of forest cover.

BIOSPHERE RESERVES

Biosphere Reserves are multi-purpose protected areas to preserve the genetic diversity in representative eco-systems. The major objectives of biosphere reserves are: (i) to conserve diversity and integrity of plants, animals and micro-organisms; (ii) to promote research on ecological conservation and other environmental aspects; and (iii) to provide facilities for education, awareness and training. So far, twelve biosphere reserves have been set up. They are Niliri, Nanda Devi, Nokrek, Great Nicobar, Gulf of Mannar, Manas, Sunderbans, Similipal, Dibru Saikhowa, Dehong Deband, Pachmarhi and Kanchanjanga. Comprehensive guidelines for them emphasise formulation of eco-development and demonstration projects, development of data-base, conservation plans of key species, establishment of research stations and implementation of social welfare activities. Non-governmental organisations are being involved in the biosphere reserve programme for creation of public awareness.

WETLANDS, MANGROVES AND CORAL REEFS

India has a wealth of wetland eco-systems distributed in different geographical regions from the cold arid zone of Ladakh in the North to the wet humid climate of Imphal in the East, the warm arid zone of Rajasthan in the West to the tropical monosonic Central India and the wet and humid zone of Southern Peninsula. Most of the wetlands in India are directly or indirectly linked with major river systems such as Ganga, Brahmaputra, Narmada, Tapi, Godavari, Krishna, Cauveri, etc. A national-level Committee constituted to advise the Government on appropriate policies and measures to be taken for conservation and management of the wetlands, has so far identified 20 wetlands for conservation and management on priority basis. Steering Committees have been set up by the concerned State Governments in which representatives of State Government departments, universities and research institutions are included. Nodal research/academic institutions have been identified for each of the selected wetlands. Management Action Plans for 16 wetlands have already been prepared and are in operation. A directory on wetlands in India has been published which gives information on location, area and ecological categorisation of wetlands in different parts of the country. India is a signatory to the Convention on Wetlands of international importance, especially as Waterfowl Habitat (Ramsar Convention) and six Indian Wetlands, viz., Keoladeo National Park, Bharatpur and Sambar (Rajasthan), Chilka (Orissa), Loktak (Manipur), Wullar (Jammu & Kashmir), and Harike (Punjab) have been designated under this Convention.

Mangroves are salt-tolerant forest ecosystems found mainly in the tropical and sub-tropical inter-tidal regions of the world. They are reservoirs of a large number of plant and animal species associated together over a long evolutionary period and exhibiting remarkable capacity for salt tolerance.

They stabilize the shoreline and act as a bulwark against encroachments by the sea. India harbours some of the best mangroves in the world and these occur all along the Indian coastline in sheltered estuary, tidal creeks, backwaters, salt marshes and mud flats. The total area covered by mangroves in India is estimated at about 6,000 sq km. Under the scheme on Conservation and Management of Mangroves, 15 mangrove areas have been identified for intensive conservation and management purposes: Northern Andaman and Nicobar (Andaman and Nicobar Islands), Sunderbans (West Bengal), Bhitarkanika (Orissa), Coringa, Godavari Delta and Krishna Estuary (Andhra Pradesh), Mahanadi Delta (Orissa), Pitchavaram and Point Calimer (Tamil Nadu), Goa (Goa), Gulf of Kutch (Gujarat), Coondapur (Karnataka), Achra/Ratnagiri (Maharashtra) and Vembanad (Kerala). Management Action Plans for all the 15 mangrove areas have been sanctioned.

Coral reefs are shallow-water tropical marine ecosystems, characterised by high biomass production and rich floral and faunal diversity. Four coral reefs, Gulf of Mannar, Andaman and Nicobar Islands, Lakshadweep Islands and Gulf of Kutch have been identified for conservation and management. State-level steering committees have been constituted for the formulation and implementation of management action plans. So far such action plans have been sanctioned for Andaman and Nicobar, Gulf of Mannar and Lakshadweep coral reefs.

BIODIVERSITY

The objectives of the Convention on Biological Diversity (CBD), to be pursued in accordance with its relevant provisions are: the conservation of Biological Diversity; the sustainable use of its component; and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. Following the ratification of the Convention on Biological Diversity by India in 1994, several steps have been initiated both to meet the commitments under the Convention and to realise the opportunities offered by the CBD. A National Policy and Action Strategy on Biodiversity, which seeks to consolidate the on-going efforts of conservation and sustainable use of biological diversity was released by the Ministry on 6 January 2000. India regularly participates in important international conventions on Biological Diversity. The Bio-Diversity Bill 2000 has been introduced in the Parliament.

FORESTS

Forests are a renewable source and contribute substantially to economic development. They play a major role in enhancing the quality of environment. The total forest cover which includes dense forest, open forest and mangrove is estimated to be 6,33,397 sq km. This constitutes 19.27 per cent of the country's geographic area. Out of these, dense forest accounts to 11.17 per cent, open forest represents 7.95 per cent while mangrove forest 0.15 per cent and scrub area 1.74 per cent.

FOREST POLICY AND LAW

India is one of the few countries, which has a forest policy since 1894. The policy was revised in 1952 and again in 1988. The main plank of the policy today is protection, conservation and development of forest. Its aims are : (i) maintenance of environmental stability through preservation and restoration of ecological balance; (ii) conservation of natural heritage; (iii) check on soil erosion and denudation in catchment area of rivers, lakes and reservoirs; (iv) check on extension of sand dunes in desert areas of Rajasthan and along coastal tracts; (v) substantial increase in forest tree cover through massive afforestation and social forestry programmes; (vi) steps to meet requirements of fuelwood, fodder, minor forest produce and soil timber of rural and tribal populations; (vii) increase in productivity of forest to meet the national needs; (viii) encouragement of efficient utilisation of forest produce and optimum substitution of wood and; (ix) steps to create massive people's movement with involvement of women to achieve the objectives and minimise pressure on existing forests.

The entire gamut of forest activities is being given a new orientation in the light of the National Forest Policy of 1988. In order to operationalise it, a National Forestry Action Programme (NFAP) was formulated and released in August 1999.

Under the provisions of the Forest (Conservation) Act, 1980, prior approval of the Central Government is required for diversion of forest lands for non-forest purposes. The Regional Chief Conservators of Forests are empowered to decide cases on diversion of forestland for non-forestry purposes up to the extent of five ha. except mining and regularisation of encroachment. They have also been empowered to examine cases involving forestland five ha. to 20 ha. in consultation with the State Advisory Group.

A scheme titled "Association of Scheduled Tribe and Rural Poor in Regeneration of Degraded Forests on Usufruct Sharing Basis" is under implementation in nine States of the country. Besides improving the forest cover, the scheme also aims at providing wage employment and usufructs to the tribal people. Joint Forest Management (JFM) is being practised in 22 States of the country. About 10.25 million hectares of degraded forests in the country are being managed and protected through 36,075 village Forest Protection Committees.

FOREST FIRE CONTROL

Fire is one of the major factors responsible for destruction of forests in the country. In India, most of the fires are man-made and the reasons are grazing, *mahua* seeds and flower collection, *tendu* leaf collection, poaching, shifting cultivation, etc. The Centrally-sponsored scheme 'Introduction of Modern Forest Fire Control Methods' aims at: (i) devising, testing and demonstrating principles and techniques for prevention, detection and suppression of forest

fires; and (ii) orientation and training of personnel for participation in forest fire management. A National Master Plan is being prepared to combat forest fires on a long-term basis.

WILDLIFE

The National Wildlife Action Plan provides the framework of strategy as well as programme for conservation of wildlife. The Indian Board of Wildlife, headed by the Prime Minister, is the apex advisory body overseeing and guiding the implementation of various schemes for wildlife conservation. At present, the protected area network comprising 86 national parks and 480 sanctuaries covering 4.66 per cent of the total geographical area of the country. The Wildlife(Protection) Act, 1972 adopted by all States except Jammu and Kashmir (which has its own Act), governs wildlife conservation and protection of endangered species. The Act prohibits trade in rare and endangered species. An Inter-State Committee has been set up to review the Wildlife(Protection) Act, 1972 and other laws. India is a signatory to the Convention on International Trade in Endangered Species (CITES) of wild flora and fauna. Under this, export or import of endangered species and their products is subject to strict control. India is also a signatory to the Memorandum of Understanding concerning the conservation of Siberian Cranes. The Centre provides financial and technical assistance to states for development and improved management of national parks; protection of wildlife and control of poaching and illegal trade in wildlife products; eco-development in areas around national parks and sanctuaries; conservation of elephant and its habitat; and conservation of rhinos in Assam. Under Project Tiger, launched in April 1 1973, 25 Tiger Reserves have been set up in 14 States covering an area of about 33,875 sq km. Financial assistance is available for voluntary relocation of tribal families from the Protected Areas. Under the Project Elephant, states having free-ranging population of wild elephants are being given financial as well as technical and scientific assistance to ensure long-term survival of identified viable populations of elephants in their natural habitats. A Central Zoo Authority has been set up to look after the management of zoological parks in the country. It coordinates the activities of over 200 existing zoos and also supervises the exchange of animals on a scientific basis. A national policy on zoos prepared by the Authority provides appropriate directions to the Government and other zoo operators. During 1999-2000, the export of Peacock tail-feathers, articles and handicrafts made from them have been banned.

ENVIRONMENT IMPACT ASSESSMENT

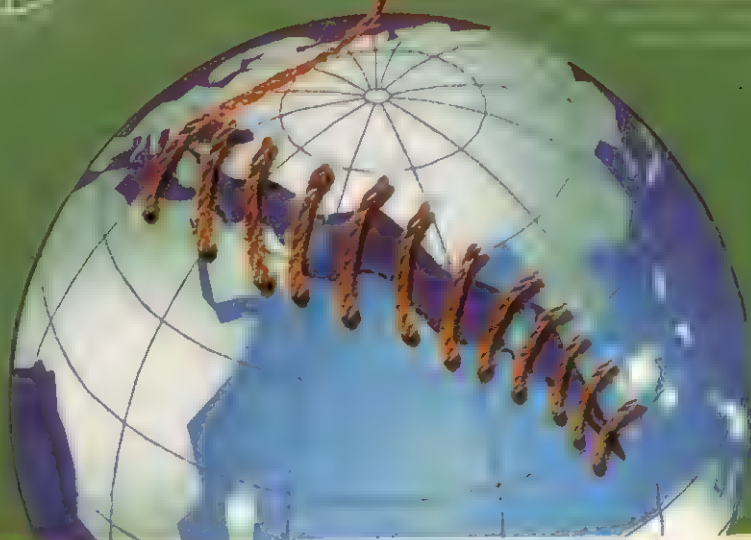
The programme of Environment Impact Assessment (EIA) was introduced in India in 1978. A Notification issued in January 1994 makes EIA statutory for 29 categories of developmental projects under various sectors such as industrial, mining, irrigation, power, transport, tourism, communication, etc. The EIA Notification was amended in 1997 in order to make public hearing

A landslide defeat. Or a landslide victory?

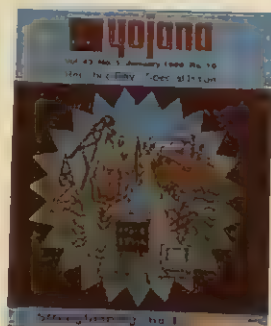
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an integral part of the assessment procedure. Environmental clearance is granted by the Impact Assessment Agency in the Ministry. This power has been delegated to the State Governments in the case of co-generation power plants of any capacity, gas/naphtha based and coal based power plants with fluidized bed technology of up to 500 MW capacity and conventional coal based power plants of up to 250 MW capacity except when located within 25 km of boundary of the reserved forests, biosphere reserves and critically polluted areas or within 50 km of inter-State boundary. In the case of projects within the existing port limits except areas classified as CRZ-I, the power to get clearance under the Coastal Regulation Zone Notification has been delegated to the Ministry of Surface Transport. Special groups/committees and task forces are constituted as and when needed for expert inputs on major projects. After detailed scrutiny and assessment, the appraisal committee makes its recommendations for approval or rejection of the project. To ensure transparency, the position of forest and environmental clearance has been brought out on website: <http://envfor.nic.in> since February 1999. Depending on the nature of the project, certain safeguards are recommended. For monitoring and timely implementation of safeguards suggested, six regional offices of the Ministry have been set up at Shillong, Bhubaneswar, Chandigarh, Bangalore, Lucknow and Bhopal.

AUTHORITIES UNDER ENVIRONMENT PROTECTION ACT, 1986

A National Environmental Appellate Authority has been constituted to hear appeals with respect to rejection of proposals from the environmental angle. The objective is to bring in transparency in the process and accountability, and to ensure the smooth and expeditious implementation of developmental schemes and projects.

An Environmental Impact Assessment Authority for the National Capital Region (NCR) has been constituted to deal with environmental project problems arising out of projects planned in the NCR.

PREVENTION AND CONTROL OF POLLUTION

The Policy Statement on Abatement of Pollution, adopted in 1992, provides instruments in the form of legislation and regulation, fiscal incentives, voluntary agreements, educational programmes and information campaigns to prevent and control pollution of water, air, and land. Since the adoption of the policy statement, the focus of activities has been on issues such as promotion of clean and low waste technologies, waste water minimisation, reuse/recycling, improvement of water quality, environment audit, natural resource accounting, development of mass-based standards, institutional and human resource development, etc. The whole issue of pollution prevention and control is dealt with by a combination of command and control methods as well as voluntary and regulations, fiscal measures, promotion of awareness and involvement of public.

An "Eco-mark" label has been introduced to label consumer products that

are environment-friendly. Since 1991, Eco-mark criteria for 16 product categories covering approximately 450 products have been finalized and notified.

To facilitate industries in preparing environmental statements, sector-specific environmental audit manuals have been prepared.

Under the scheme for adoption of clean technology in small-scale industries and for extending necessary technical support, training and awareness programmes for personnel in Small Industry Development Organisation and for entrepreneurs are being organised. "From Waste to Profits", a manual giving guidelines for waste minimisation, has been prepared. Sector-specific manuals on waste minimisation in the areas of pulp and paper, pesticides formulations and textiles, dyeing and printing and electroplating, have also been prepared.

Waste Minimisation Circles (WMCs) are being established to promote group efforts in increasing productivity and improving the environmental conditions in small and medium-scale industries through adoption of waste minimisation techniques. Forty-three Waste Minimisation Circles have been established so far in different industrial clusters across the country.

A major programme for improvement of automotive fuels such as motor gasoline and diesel is being introduced in the country in a phased manner. Only unleaded petrol is supported in all outlets of the entire country with effect from 1 February 2000 and 0.25 per cent sulphur in diesel with effect from 1 January 2000 respectively. The Ministry of Surface Transport (MoST), has notified rules relating to the registration of non-commercial, petrol and diesel driven four-wheeled vehicles in the National Capital Region (NCR) to conform India-2000 emission standards akin to Euro-I emission standards effective on and from 1 June 1999 as these standards are effective from 1 April 2000 in the entire country for all types of vehicles. The MoST has also notified more stringent emission standards known as Bharat Stage -II similar to Euro-II emission standards for registration of Motor cars and Four-wheeler Passenger Vehicles with Gross Vehicle Weight (GVW) equal or less than 3,500 kg, which were to conform to Euro-II emission norms by 1 April 2000 in the NCR. A Committee has been constituted to work out the phased time-table for introduction of fuel with maximum 0.05 per cent sulphur content throughout the country for registration of new vehicles.

CENTRAL POLLUTION CONTROL BOARD

The Central Pollution Control Board (CPCB) is the national apex body for assessment, monitoring and control of water and air pollution. The executive responsibilities for enforcement of the Acts for Prevention and Control of Pollution of Water (1974) and Air (1981) and also of the Water (Cess) Act, 1977 are carried out through the Board. The CPCB advises the Central Government on all matters concerning the prevention and control of air, water and noise pollution and provides technical services to the Ministry for implementing the provisions of the Environment (Protection) Act, 1986. Under

this Act, effluent and emission standards in respect of 61 categories of industries have been notified.

Seventeen categories of heavily polluting industries have been identified. They are: cement, thermal power plant, distilleries, sugar, fertilizer, integrated iron and steel, oil refineries, pulp and paper, petrochemicals, pesticides, tanneries, basic drugs and pharmaceuticals, dye and dye intermediates, caustic soda, zinc smelter, copper smelter and aluminium smelter. Out of a total of 1,551 units identified under these categories, 1,284 units have installed adequate facilities for pollution control and 153 units have been closed down.

The Central Pollution Control Board, in consultation with State Pollution Control Boards, has identified 24 critically polluted areas in the country which need special attention for control of pollution. These are: Vapi (Gujarat), Singrauli (Uttar Pradesh), Korba, Ratlam, Nagda (Madhya Pradesh), Digboi (Assam), Talcher (Orissa), Bhadravati (Karnataka), Howrah (West Bengal), Dhanbad (Bihar), Pali and Jodhpur (Rajasthan), Manali and North Arcot (Tamil Nadu), Visakhapatnam and Patancheru (Andhra Pradesh), Chembur (Maharashtra), Najafgarh (Delhi), Govindgarh (Punjab), Udyog Mandal (Kerala) and Parwanoo and Kala Amb (Himachal Pradesh). Actions Plans have been prepared and are being implemented in these areas.

The CPCB in collaboration with the SPCBs monitors the quality of fresh water resources of the country through a network of 507 monitoring stations located all over the country. Based on such monitoring, 13 heavily polluted and 26 medium-polluted river stretches have been identified.

Under the National Ambient Air Quality Monitoring Programme, 290 stations covering over 92 towns/cities monitor the ambient air quality of the country.

The Board has a NGO Cell for interacting with NGOs. Simple water-testing kits are distributed free of cost to selected NGOs and financial assistance provided to them for conducting mass awareness programmes relating to prevention and control of pollution.

MANAGEMENT OF HAZARDOUS SUBSTANCES

The Ministry of Environment and Forests is the nodal agency for the management and control of hazardous substances, which include hazardous chemicals, waste and micro-organisms. The following rules have been notified under the Environment (Protection) Act, 1986: (i) Manufacture, Storage and Import of Hazardous Chemicals, 1989; (ii) Hazardous Wastes (Management and Handling) Rules, 1989; (iii) Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms/Genetically Engineered Organisms or Cell, 1989; and (iv) Biomedical Waste Rules, 1998. The Ministry has issued notification on Recycled Plastic Manufactures and Usage Rules, 1999 in September 1999.

A central control room has been set up in the Ministry to deal with emergencies arising from hazardous chemicals and a Crisis Alert System has been established. Guidelines for preparation of crisis management plans have been issued to the State Governments and financial support is being provided to them to strengthen infrastructure for the purpose. Emergency Response Centres have been set up at Bhopal, Vadodara, Manali and Khapali. The Red Book entitled "Central Crisis Group Alert System" which includes names, addresses and telephone numbers of the Central and state authorities and experts to be contacted in case of emergency, has been published and circulated.

A sub-scheme entitled "Industrial Pocket-wise Hazard Analysis" has been in operation since the Eighth Five Year Plan. Hazard Analysis Studies of 47 pockets have since been completed.

India is a signatory to the UNEP-sponsored Convention on Control of Transboundary Movement of Hazardous Wastes, which was adopted at Basel, Switzerland, by 126 governments of the world in 1989. The Convention aims at checking the reported illegal traffic in hazardous wastes from one country to another. The fifth meeting of the Conference of the Parties (COP-5) to the Basel Convention on the Transboundary Movements of Hazardous wastes and their disposal was held from 6-10 December 1999 at Basel. A Basel Declaration on the Environmentally Sound Management of Hazardous Wastes and a Protocol on Liability and Compensation were adopted during the Conference.

The final notification on Bio-Medical Waste (Management and Handling) Rules, 1998 has been issued on 27th July 1998. The time limit for setting up treatment facilities for specific categories of waste generation was extended to June 2000. Amendments to these Rules are also under consideration.

The Ministry issued the final notification on 14 September 1999 in order to conserve topsoil and prevent the dumping and disposal of flyash discharged from coal or lignite based thermal power plants. With a view to control environmental hazards due to back yard smelting of used Lead Acid Batteries, a preliminary notification on Channelisation and Recycling of Used Lead Acid entitled "Lead Acid Batteries (Management and Handling) Rules, 2000" has been finalized. Implementation of the Manufactures, Storage and Import of Hazardous Chemical (MSIHC) Rules, 1989 and Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 are being pursued with the State/Union Territory governments. At present, there are 1,429 Major Accident Hazard Units in 269 districts. As per latest reports, 1,309 on-site plans and 90 off-site plans have been prepared and eleven States have constituted their State Level Crisis Groups.

NATIONAL RIVER CONSERVATION AUTHORITY

The Central Ganga Authority (CGA) established in 1985, lays down the policies for works to be taken up under the Ganga Action Plan (GAP). With

the approval of the National River Conservation Plan (NRCP) in 1995, the CGA has been reconstituted as the National River Conservation Authority (NRCA) and the Ganga Project Directorate has been redesignated as the National River Conservation Directorate (NRCD).

The main component of the Ganga Action Plan is diversion of sewage flowing into the river to other locations for treatment and conversion into valuable energy sources. As against the target of creating infrastructure capable of intercepting, diverting and treating 873 million litres per day (mld) of domestic waste, infrastructure capable of treating 835 mld of municipal sewage has been created. Out of 261 schemes sanctioned, 258 have been completed.

The Ganga Action Plan, Phase-II, has been merged with the National River Conservation Plan (NRCP). The expanded NRCP now covers 141 towns located along 22 inter-state rivers in 14 states. The total cost of the schemes is Rs 2,013.40 crore. Under this Action Plan, pollution abatement works are being taken up in 29 towns. Of these, 10 are in Uttar Pradesh, 11 in Bihar and eight in West Bengal. A total of 35 schemes of pollution abatement have been sanctioned. About 618 mld of sewage is targeted to be intercepted, diverted and treated.

Under Yamuna Action Plan, Pollution abatement works are being taken up in 21 towns. Of these 12 are in Haryana, eight in Uttar Pradesh besides Delhi. So far 31 schemes have been completed. Out of the project outlay of Rs 496.45 crore the expenditure incurred is Rs 390.84 crore. External assistance of Yen 17.77 billion is being provided by OECF, Japan to part finance the Yamuna Action Plan. Under Gomti Action Plan, pollution abatement works are being taken up along the Gomti river in Lucknow, Sultanpur and Jaunpur in Uttar Pradesh. About 269 mld of sewage is targeted to be intercepted, diverted and treated under this action plan. A National Lake Conservation Plan has also been initiated under which various urban lakes have been identified for immediate conservation. Approval has been given for Dal Lake Conservation Programme in Jammu & Kashmir.

NATIONAL AFFORESTATION AND ECO-DEVELOPMENT BOARD

The National Wastelands Development Board (NWDB) established in May 1985 was bifurcated into a new Department of Wastelands Development and a National Afforestation and Eco-Development Board (NAEB) in 1992. While the NAEB is a part of the Ministry of Environment and Forests, the work of Wastelands Development has been transferred to the Ministry of Rural Development. The responsibilities of the NAEB include promotion of afforestation, tree plantation, ecological restoration and eco-development activities in the country with special attention to the degraded forest areas and lands adjoining the forest areas, national parks, sanctuaries and other protected areas, as well as the ecologically fragile areas like the Western Himalayas, Aravallis, Western Ghats, etc. The NAEB seeks to carry out its

responsibilities through several schemes such as the integrated afforestation and eco-development project, area-oriented fuelwood and fodder projects, non-timber forest produce (including medicinal plants) scheme, aerial seeding, seed development, technology extension, grants-in-aid to voluntary agencies, etc. During the Ninth Five Year Plan, four key elements, viz. Promotion of Joint Forest Management, Micro Planning Incorporation of improved technologies, and Monitoring and Evaluation of projects, will be emphasized while implementing these schemes. Eco-task forces of ex-servicemen have been deployed in the states of Uttar Pradesh, Rajasthan and Jammu and Kashmir for undertaking eco-restoration work through afforestation, pasture development and other water and soil conservation measures in selected highly degraded and inhospitable areas of these states. An Advisory Committee was constituted by the NAEB in October 1998 to examine the issues related to women's participation in forest management and afforestation programme in the country.

The NAEB has seven Regional Centres located at different universities and national-level institutions of the country. These Centres help the NAEB in promoting extension of replicable technologies and in disseminating research findings to a wider audience.

RESEARCH PROMOTION

ENVIRONMENTAL RESEARCH PROGRAMME

The environmental research programme aims at developing strategies for sustainable resource management and creating facilities and trained manpower to conduct research in priority areas. Research projects are supported under three main schemes: (a) Eco-system Research Scheme; (b) Environment Research Programme; and (c) Action-oriented Research Programme for Eastern and Western Ghats. There are many small, specific research projects also being supported. Expert Committees and Expert Working Groups make recommendations for undertaking research in priority areas, scrutinise proposals, evaluate progress and recommend suitable mechanisms for implementation of research projects.

During 1999-2000, 21 new projects were sanctioned, 28 were completed and 106 on-going projects were reviewed and monitored for their progress.

India is a party to the United Nations Framework Convention on Climate Change (UNFCCC). The objective of this multilateral treaty is stabilisation of the greenhouse gas concentrations in the atmosphere at levels that would prevent dangerous anthropogenic interference with the climate system. The Kyoto Protocol to the UNFCCC, which is yet to enter into force, enjoins upon the developed country parties to reduce their greenhouse gas emissions by a global average of 5.2 per cent below the 1990 levels. The various issues relating to implementation of the obligations under the UNFCCC and development of the modalities, principles, rules and guidelines in respect of

Kyoto Protocol Mechanisms were the main focus of discussions and negotiations during 1999-2000.

GB PANT INSTITUTE OF HIMALAYAN ENVIRONMENT

The GB Pant Institute of Himalayan Environment, Almora (Uttaranchal) established in 1988 is an autonomous organisation of the Ministry of Environment and Forests for developing strategies, technologies and knowledge base for ecologically sound development of the Himalayan region. Besides undertaking action-oriented research projects, the Institute has also installed three weather-monitoring stations for collecting and analysing climatic data of the Himalayan region. Units of the Institute are located in Sikkim, Nagaland and Himachal Pradesh.

The Institute has prepared guidelines in three important areas concerning the IHR which include guidelines for Road Sector in the IHR (Green Roads Concept) rain water Harvesting for Irrigation and Domestic use, and Location Planning and Site Selection for Residential Buildings, Tourist/Commercial Complexes in Hill Towns.

FORESTRY RESEARCH

Forestry research is the primary responsibility of the Indian Council of Forestry Research and Education located at Dehra Dun. The following forestry research institutes and centres under the Council are responsible for undertaking research in their respective eco-climatic zones: (i) Forest Research Institute, Dehra Dun; (ii) Institute of Arid Zone Forestry Research, Jodhpur; (iii) Institute of Rain and Moist Deciduous Forests, Jorhat; (iv) Institute of Wood Sciences and Technology, Bangalore; (v) Tropical Forestry Research Institute, Jabalpur; (vi) Institute of Forest Genetics and Tree Breeding, Coimbatore; (vii) Temperate Forest Research Centre, Shimla; (viii) Centre for Forest Productivity, Ranchi; (ix) Institute of Social Forestry and Eco-rehabilitation, Allahabad; (x) Institute of Forestry Research and Human Resource Development, Chhindwara; and (xi) Advanced Centre for Bio-technology and Mangrove Forests, Hyderabad. In addition, the Indian Plywood Industries Research and Training Institute, Bangalore, has been transferred to the Ministry of Environment and Forests from the Ministry of Industry. Besides forestry research in wood panel products, this institute imparts training to workers in optimum utilisation of timber. The Indian Institute of Forest Management, Bhopal, also undertakes education, training, research and consultancy in forest management.

WILDLIFE RESEARCH

Research programmes in wildlife are carried out by the Wildlife Institute of India, Dehradun, and the Salim Ali Centre for Ornithology and Natural History, Coimbatore. Several projects on habitat evolution, elephant movement, ecology of *gharials* and turtles, status of endangered species, behavioural ecology, bio-diversity, resource study conservation, ecology and management of specific animals, etc., are being carried out by both these Institutes.

NATIONAL NATURAL RESOURCES MANAGEMENT SYSTEM

The basic objective of the National Natural Resources Management System (NNRMS) is the utilisation of Remote Sensing Technology with the conventional methods for optimal use and management of the natural resources of the country. A Standing Committee on Bio-resources and Environment advises the Ministry on various aspects relating to the implementation of this scheme. Specific research projects are also supported under this scheme. So far, the committee has identified 23 priority areas and recommended 62 projects under these areas.

EDUCATION, AWARENESS AND INFORMATION

Priority is accorded by the Ministry to promote environmental education, create environmental awareness among various age groups and to disseminate information through Environmental Information System (ENVIS) network to all concerned. A major initiative to include environment education as a separate and compulsory subject in the education curricula has been taken by the Ministry at all levels of formal education, i.e., secondary, senior secondary and tertiary levels. The Chief Ministers have been urged to introduce environment education in the school curricula from 1999-2000 academic session. Maharashtra is the first State to introduce the subject in the school curriculum. Special emphasis is given to non-formal environmental education through seminars, symposia, workshops, training programmes, eco-clubs, audio visual shows, etc. The Ministry has been organising a National Environmental Awareness Campaign since 1986. As a part of this campaign, 19 November to 18 December every year is observed as the National Environment Month. A large number of organisations have been granted financial assistance by the Ministry to organise various activities for creating environmental awareness. The Ministry also provides financial assistance for setting up eco-clubs in schools and for organising seminars, symposia, etc., on environment-related issues to various organisations.

Seven Centres of excellence have been set up by the Ministry to strengthen awareness, research and training in priority areas of Environmental Science and Management. These are: Centre for Ecological Sciences, Bangalore; Centre for Mining Environment, Dhanbad; Centre for Environmental Education, Ahmadabad; CPER Environmental Education Centre, Chennai; Salim Ali Centre for Ornithology and Natural History, Coimbatore; the Centre for Environmental Management of Degraded Ecosystems, Delhi, and the Tropical Botanical Garden and Research Institute, Thiruvananthapuram.

The National Museum of Natural History (NMNH) set up in New Delhi in 1975 is concerned with the promotion of non-formal education in the area of environment and conservation. Besides permanent exhibit galleries on various aspects of environment, the museum also conducts temporary exhibitions and a large number of educational programmes and activities for school children, college youth and the general public. Three Regional Museums of Natural History have been established at Mysore, Bhopal and Bhubaneswar.

Environment

The Indian Council for Forestry Research and Education is the focal point for forestry education and extension development in the country. The Indira Gandhi National Forest Academy, Dehra Dun imparts in-service professional training to Indian Forest Service (IFS) professionals, state forest service colleges provide training to the officers of the State Forest Service (SFS). The Indian Plywood Industries Research and Training Institute, Bangalore organises short term courses in the area of wood science. The Indian Institute of Forest Management, Bhopal also provides training in forest management and allied subjects to IFS officers, forest development corporations and forest related industries to develop forestry programmes. The Wildlife Institute of India, Dehradun, provides in-service training to forest officers, wildlife ecologists and other professionals for conservation and management of the wildlife resources of the country.

ENVIRONMENTAL INFORMATION SYSTEM

An Environmental Information System (ENVIS) was set up by the Ministry of Environment and Forests in 1982 as a decentralised information network for collection, storage, retrieval and dissemination of environmental information. Besides the Focal Point in the Ministry, ENVIS network presently consists of 25 subject oriented centres, known as ENVIS Centres, set up in various institutions/organisations of the country in priority areas of environment. The Focal Point brings out a quarterly abstracting journal, *Paryavaran Abstracts* containing information about environmental research in the Indian context.

ENVIS has been designated as National Focal Point (NFP) and Regional Service Centre (RSC) for South Asia sub-regional countries by UNEP/WHO as an international referral system for sources of information on environment of United Nations Environment Programme (UNEP). The ENVIS network reported to 1440 queries during 1998-1999 on variety of subject areas of environmental concerns. ENVIS publishes a monthly newsletter, *ENVIS NEWS* and has also developed a home page of the Ministry. It is accessible on the Internet at URL: <http://envfor.mef.gov.in>. The ENVIS has been entrusted with the responsibility of implementing the UNEP and UNEP/WHO project, 'Institutional Development Network Programme (IDNP)'. A website for IDNP has been set up for receiving information by a web browser section of users: <http://idnp.mef.gov.in>.

FELLOWSHIPS AND AWARDS

Instituted in 1983, the Indira Gandhi Paryavaran Puraskar, conferring a cash component of one lakh rupees and a silver trophy and a citation is awarded every year to an organisation and to an individual for significant contributions in the field of environment.

The Indira Paryavaran Yashwantrao Awards were instituted by the Ministry of Environment and Forests in 1986 to recognise outstanding contributions of individuals and organisations in the field of environmental awareness development. Starting with 1993, 12 annual awards are given to individuals, educational institutions, panchayats, voluntary agencies

government agencies and the corporate sectors. Each award carries a medallion, a citation and a cash component of Rs 50,000.

The *Mahavriksha Puraskar*, instituted by the National Afforestation and Eco-development Board (NAEB) during 1993-94 is given every year to individuals/organisations for trees of notified species having the largest girth and height and in good health and vigour. The award consists of a cash prize of Rs 25,000, a plaque and a citation.

Rajiv Gandhi Environment Award for Clean Technology instituted in 1993, is given to industrial units that have made significant and measurable contributions towards development of clean technologies and innovative solutions to environmental problems created by industrial operations.

With the objective of encouraging original and applied research among Group 'A' scientists in the Ministry and its associated offices and autonomous bodies, *Paryavaran Evam Van Mantralaya Vishisht Vaigyanik Puraskar* was instituted in 1992-93. The scheme provides every year for two awards worth Rs 20,000 each.

The *Pitambar Pant National Environment Fellowship Award* instituted in 1978, is awarded annually to recognise, encourage and support excellence in any branch of research related to environmental science.

In recognition of the Bishnoi community's contribution to nature conservation and to encourage studies on desert ecology, the Ministry has instituted a Desert Ecology Fellowship at the University of Jodhpur.

Instituted in 1995, the *B.P. Pal National Environment Fellowship Award for Biodiversity* is in recognition of significant research and development contributions and is intended to encourage talented individuals to devote themselves whole time to R&D pursuits in the field of bio-diversity.

The *Rajiv Gandhi National Wildlife Conservation Award* and *Salim Ali/Kailash Sankhla Fellowships* were instituted recently by the Ministry for recognising eminent officers and field workers for exemplary work in the field of Wildlife Conservation and Research.

National award for protection of pollution is an award to be given every year to the industries and operations which make a significant and measurable contribution towards development or use of clean technologies, product or practices that prevent pollution and finding innovative solutions to the environmental problems. Eighteen awards, one each for the identified category of highly polluting industries and five to the small scale industries, are given every year.

ENVIRONMENTAL LEGISLATION

The Wildlife (Protection) Act, 1972 provides for rational and modern wildlife management while the Forest (Conservation) Act, 1980, has been enacted to check indiscriminate deforestation/diversion of forest land for non-forest purposes. The Water and Air Acts are the major instruments for the control

of water and air pollution and these have provided for the establishment of the Central and State Pollution Control Boards. Acts relating to the national environment are amended from time to time to rationalise and expand their scope, coverage and penal provisions. The Ministry is currently preparing a comprehensive National Policy on Environment. The Water (Prevention and Control of Pollution) Cess Act, 1977 is also being amended.

INTERNATIONAL COOPERATION

The Ministry of Environment and Forests functions as a nodal agency for United Nations Environment Programme (UNEP), South Asia Cooperation Environment Programme (SACEP), and International Centre for Integrated Mountain and Development (ICIMOD), International Union for Conservation of Nature and Natural Resources (IUCN) and various international agencies, regional bodies and multilateral institutions.

India is a signatory to a number of international treaties/agreements in the field of environment. The Ministry and its agencies receive assistance from various countries such as Sweden, Netherlands, Norway, Denmark, Australia, U.K., U.S.A., Canada, Japan, FRG, etc., on bilateral basis and from several UN and other multilateral agencies such as UNDP, World Bank, Asian Development Bank, OECF(Japan) and ODA(U.K.) for various environmental and forestry projects.

OZONE CELL

Global efforts to protect the ozone layer started in the early seventies leading to the adoption of the Vienna Convention on Ozone Depleting Substances (ODS) in 1985 and the Montreal Protocol in 1987. India acceded to the Montreal Protocol, along with its London Amendment in 1992. To meet the country's commitment on ODS phase-out under the protocol and to disseminate information on ozone and ODS, the Ministry has established an Ozone Cell. A bi-monthly newsletter on ozone issues is published by the Cell. Workshops and seminars are also conducted to create awareness about ozone among industries. The Ministry provides custom/excise duty exemption for ODS phase-out projects and detailed guidelines/procedures have been finalised to grant duty exemption for new investments with non-ODS technologies. A policy to issue licences for import of ODS has been implemented and the Reserve Bank of India, on the recommendation of the Ministry, has issued instructions to all commercial banks prohibiting finance or refinance of new investments with ODS technologies. Fifty-five projects for about US \$ 11.4 million were approved by the Multilateral Funds for India during 1999. These projects will phase out 3,448 tonnes of ODS when completed. All known aerosol fillers were advised to use distanced LPG only after following adequate safety norms. India was elected Member and Chairman of the Executive Committee of the Montreal Protocol for the year 2000. UNEP-IE Ozone Action Programme has established another ODS officer's Network in South Asia with India as one of the members.

9 Health and Family Welfare

UNDER the Constitution, health is a State subject. Central Government's intervention to assist the State Governments is needed in the areas of control/eradication of major communicable and non-communicable diseases, broad policy formulation, medical and para-medical education along with regulatory measures, drug control and prevention of food adulteration, besides activities concerning the containment of population growth including child survival and safe motherhood (CSSM) and immunization programmes.

The crude mortality rate declined from 27.4 per 1,000 population at the time of Independence to nine in 1998, and infant mortality rate has been brought down from 134 per 1,000 live births to 72 in 1998. Life expectancy has risen from a mere 32 years in 1947 to about 62 years. The country has been able to achieve zero guineaworm status as no new cases of guineaworm have been reported after 1996. We are making steady progress towards elimination of leprosy, polio, neonatal tetanus and Iodine Deficiency Disorders.

HEALTH PLANS

Several National health programmes are being implemented as Centrally-sponsored schemes aimed mainly at reduction of mortality and morbidity caused by major diseases. The major health schemes include the National programmes for eradication of malaria, blindness, leprosy, tuberculosis, AIDS including blood safety measures and STD control, Cancer control. Special attention is also being paid to Trauma and Spinal injuries. Pilot projects have also been taken up in respect of cardio-vascular diseases, diabetes and rehabilitation of the medically disabled.

During 1999-2000 and 2000-2001 outlays of Rs 1,160 crore and Rs 1,300 crore including Rs 483.47 crore and Rs 482 crore as foreign aid respectively was approved for Central sector health programmes.

NATIONAL HEALTH PROGRAMMES

MALARIA

The National Anti Malaria Programme is the world's biggest health programme against a single communicable disease and continues to be the country's most comprehensive and multi-faceted public health activity. With the successful implementation of the programme in 1958, the annual incidence of malaria was drastically reduced from 7.5 crore at the time of Independence to about one lakh in 1965. Deaths due to malaria were completely eliminated. Unfortunately, due to various factors, these achievements could not be maintained. Resurgence of malaria necessitated renewed vigorous anti-malaria activities and the programme was modified in the context of escalating malaria incidence. This Modified Plan of Operation (MPO) was implemented from April 1977.

Since the implementation of MPO, the malaria incidence has gradually gone down, to 1.66 million cases in 1987 as against 6.47 million cases during 1976. Since 1989 onwards the total incidence has been between two to three million cases per year. During 1999 (provisional), 2.28 million malaria cases and 1.14 million *P.falciparum*(Pf) cases were reported and 1,057 malaria deaths were recorded. In view of the high incidence of malaria and resource constraints in seven north-eastern States, cent per cent Central assistance is being provided with effect from December 1994. For the effective control of malaria, the Enhanced Malaria Control Project with World Bank assistance was launched in September 1997. Under this project 100 hard core and tribal predominant districts of Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan and Orissa and 19 problematic towns of various States have been included.

FILARIA

The National Filaria Control Programme was launched in 1955 for the control of filariasis. Activities taken up under the programme include : (i) delimitation of the problem in hitherto unsurveyed areas and (ii) control in urban areas through recurrent anti-larval measures and anti-parasite measures. It is estimated that out of about 454 million people living in known endemic areas, about 119 million people are in urban areas and the rest in rural areas. At present about 49.87 million urban population is being protected through recurrent anti-larval measures by 206 control units, 199 filaria clinics and 27 filaria survey units. Training in filariology is imparted at three Regional Filaria Training and Research Centres situated at Calicut, Rajahmundry and Varanasi under the National Institute of Communicable Diseases of Delhi. During 1997, 41 million population in 13 districts of Bihar, Uttar Pradesh, West Bengal, Orissa, Andhra Pradesh, Tamil Nadu and Kerala was covered under the revised strategy for filaria control with single dose annual mass drug administration of diethyle carbamazine (DEC).

KALA-AZAR

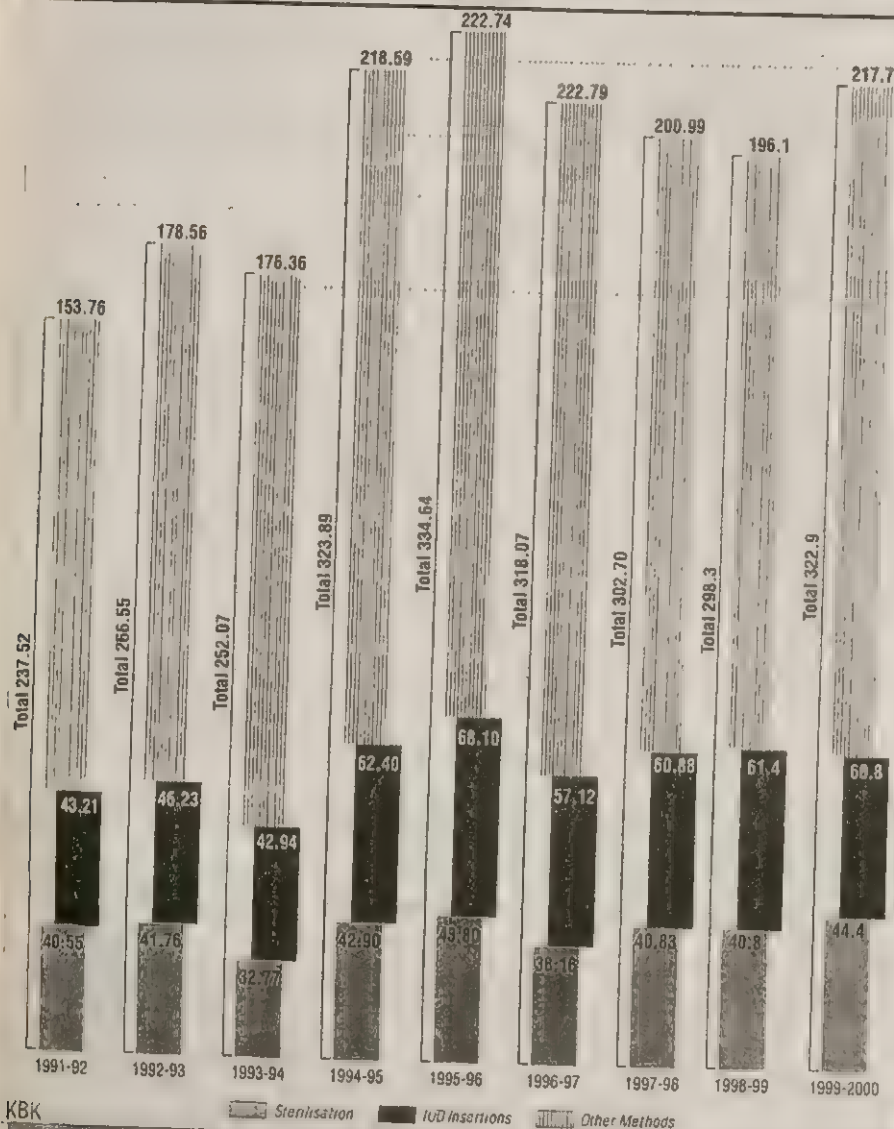
Kala-azar is a serious public health problem endemic in Bihar and West Bengal. Until 1990-91, the assistance for *Kala-azar* control was being provided by the Government of India out of the National Anti-Malaria Programme (NAMP). During 1998, 13,577 cases with 226 deaths and in 1999 (provisional), 11,272 cases and 260 deaths were reported. The Centre provides insecticide, anti-*Kala-azar* drugs and technical guidance to the affected States.

JAPANESE ENCEPHALITIS

Japanese Encephalitis (JE) caused by a virus and spread by mosquitoes, has a high mortality rate of 30 to 45 per cent. Andhra Pradesh, West Bengal, Assam, Tamil Nadu, Karnataka, Kerala, Manipur, Haryana and Uttar Pradesh reported maximum cases and deaths of Japanese Encephalitis. During 1998, 2,120 cases with 507 deaths and in 1999 (provisional) 3,427 cases with 680 deaths were reported. Japanese Encephalitis vaccine has been developed

ACCEPTORS OF FAMILY WELFARE METHODS

IN LAKH



KBK

Sterilisation

IUD Insertions

Other Methods

indigenously by Central Research Institute, Kasauli. Funds for JE control activity are utilised out of NAMP budget.

DENGUE FEVER/DENGUE HAEMORRHAGIC FEVER

Dengue fever is a fatal re-emerging viral disease, which is transmitted through the bites of female *Aedes aegyti* mosquitoes. In India, the virus was first isolated during fifties. Outbreaks have been reported from various parts of the country primarily from urban areas. There are four serotypes of dengue virus which are prevalent in India. Dengue viral infection may remain a symptomatic or manifest either as undifferentiated febrile illness (viral syndrome), Dengue Fever (DF) or Dengue Haemorrhagic Fever (DHF).

An outbreak of Dengue was reported in Delhi in 1996, when 10,252 cases and 423 deaths were reported. Incidence of dengue was also reported from Haryana, Punjab, Uttar Pradesh, Karnataka, Maharashtra and Tamil Nadu the same year with 16,517 cases and 545 deaths. During 1999, 944 dengue cases and 17 deaths were reported from Tamil Nadu, Karnataka, Delhi, Haryana, Maharashtra, Rajasthan, Punjab, Uttar Pradesh and Gujarat. During 2000, 92 cases and one death have been reported so far from Delhi(2), Gujarat (29), Karnataka (23), Punjab (1), Maharashtra (1), Tamil Nadu (36) and one death.

TUBERCULOSIS

It is estimated that 14 million people are suffering from active tuberculosis in India of which 3 to 3.5 million are highly infectious cases. About 0.5 million die of this disease every year. District TB Centres (DTCs) are functioning in 446 districts. There are 330 TB clinics in big towns and cities, 17 TB Training and Demonstration Centres and about 47,600 TB beds in the country.

There has been considerable increase in the budgetary allocation for implementation of the programmes from Rs 183.05 lakh in 1981 to Rs 9,500 lakh in 1999-2000. The targets have been revised in the light of the Revised Strategy with emphasis on diagnosing sputum positive cases and achieving 85 per cent cure rate in patients put on treatment. The Revised National Tuberculosis Programme (RNTCP) was launched on 26 March 1997. The revised strategy is proposed to be implemented in a phased manner in 102 districts of the country, covering a population of 400 million by 2002, with the assistance of World Bank. Another 100 million population in Orissa and Andhra Pradesh is proposed to be covered with DANIDA and DFID assistance respectively. Presently RNTCP is covering a population of about 200 million. In RNTCP nearly eight out of ten patients diagnosed are being cured. As on date more than 2.5 lakh patients have been put on RNTCP treatment, more than 40,000 lives saved and lakhs of people who would have been infected, have not been affected.

LEPROSY

India has ranked foremost among the countries with people infected with leprosy, sharing about 67 per cent of the globally recorded leprosy-case load.

The National Leprosy Eradication Programme (NLEP) was launched in 1983 as a hundred per cent Centrally-sponsored scheme. The programme has the objective of eliminating leprosy as a public-health problem by 2000 A.D., thereby reducing the case-load to less than 1/10,000 population. Till March 2000, 778 leprosy control units, 907 urban leprosy centres, 290 temporary hospitalisation wards, 278 district leprosy units, 5,744 survey education and treatment (SET) centres, 75 reconstructive surgery units (RCU), 49 leprosy training centres, 40 sample survey-cum-assessment units and 353 mobile leprosy treatment units have been established in various States/UTs. Besides 490 District Leprosy Societies have been created to provide free MDT services in all the districts of the country. About 285 voluntary organisations in coordination with NLEP are supplementing the Government efforts in the fight against leprosy. Anti-Leprosy drugs are provided free to all States/UTs. By March 2000, 0.45 million patients are on record in the country. The prevalence of leprosy has been reduced from 57/10,000 population in 1981 to 4.5/10,000 population by March 2000 (provisional).

The first round of Modified Leprosy Elimination Campaign (MLEC) has been implemented in all the States/UTs. A total of 4.64 lakh new patients was detected. The second round of such campaign was also implemented in 1999-2000 in all the States/UTs except Delhi, Dadra & Nagar Haveli and Andaman & Nicobar Islands. A total of 2.10 lakh patients was identified during this campaign. All confirmed patients have been put under free Multi Drug Therapy. The State of Nagaland, Haryana, Punjab, Himachal Pradesh, Tripura, Meghalaya, Mizoram, Sikkim and Jammu Division of J&K have reached level of elimination and seven of the States/UTs are very close to elimination. The Government of India provides grant-in-aid to the NGOs engaged in the survey, education and treatment activities.

BLINDNESS

The National Programme for Control of Blindness (NPCB) was launched in the year 1976 as 100 per cent Centrally-sponsored programme. Various activities of this programme include establishment of Regional institutes of ophthalmology, upgradation of medical colleges and district hospitals development, development of mobile eye units, recruitment of required ophthalmic manpower and provision of various ophthalmic services. A national survey was conducted during the period 1986-89 to evaluate the programme. The prevalence of blindness revealed by the survey was 1.49 per cent.

As per the National Survey, it is estimated that there are more than 12 million economically blind persons in India. Of the total 80.1 per cent are blind due to cataract. In absolute terms, more than two-thirds of blind persons are in Andhra Pradesh, Orissa, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Uttar Pradesh. Rapid Surveys (1998-99) have indicated marginal reduction in prevalence of blindness, increase in coverage and significant rise in percentage of surgery (35 per cent). During 1999-2000, about 35 lakh cataract surgeries were done.

At the tertiary level of ophthalmic care there are 11 regional institutes of ophthalmology including the apex institute, Dr R.P. Centre for Ophthalmic Sciences in the All India Institute of Medical Sciences, New Delhi. These centres have been established as centres of excellence in the field of eye care. In addition, 82 medical colleges have been upgraded under NPCB. So far 166 eye banks have been developed in the Government and non-government sector.

At the secondary level 445 district hospitals have been equipped for ophthalmic services. Under the programme the concept of District Blindness Control Societies (DBCS) has been successfully implemented in all States. Based on the success, as many as 520 DBCS have been formed so far. These societies have representatives of Government, NGO and private sector as members. The concept of DBCS is to decentralise management of ophthalmic services and evolve a partnership among Government, non-government and private sector.

The problem of blindness is acute in rural areas and hence the programme has tried to expand accessibility of ophthalmic services. At present, there are 80 central mobile units (attached to medical colleges) and 341 district mobile units which cater to mobile eye camps for eye care in general and performance of cataract surgery in particular. Most of the cataract operations on rural population are conducted through these mobile camps. So far 5,633 primary health centres, have been equipped with ophthalmic equipments and by posting para medical ophthalmic assistants.

SEXUALLY TRANSMITTED DISEASES

Control of Sexually Transmitted Diseases (STDs) was introduced as a national control programme by the Government of India during the Fourth Five Year Plan. Recognising STD as one of the major determinants for transmission of HIV infection, the programme has been merged with the National AIDS Control Programme. The Government of India has laid emphasis mainly on teaching, training, research, epidemiology and health education in sexually transmitted diseases. The STD component of the National AIDS Control Programme seeks to take up activities to strengthen clinical services including diagnosis and case management activities in STD clinics and through primary health care systems. 504 STD clinics functioning in the country were upgraded and started as referral centres. There is involvement of private practitioners in STD control through Indian Medical Association (IMA). A manual on syndromic management of STD cases prepared by NACO has been sent to the States for imparting training to the doctors. Nearly 18,600 medical officers from Government health sector and 10,000 private sector doctors have been trained. An IEC package for prevention of STDs has been developed and distributed to all levels of health delivery system. Throughout the country, 500 community health centres have been developed with dark field ground illumination microscope for efficient laboratory diagnosis of STDs.

AIDS

The Acquired Immuno Deficiency Syndrome (AIDS) is caused by a virus known as Human Deficiency Virus (HIV). Since the first case was detected in USA in 1981, the HIV/AIDS epidemic continues its expansion across the globe with approximately 16,000 new infections a day. Soon after the first case of AIDS was detected in India in 1986, a National AIDS Committee was constituted to assess epidemiological situation of HIV infection in the country. The Government of India launched a National AIDS Control Programme in 1987 which focussed on increasing awareness of HIV/AIDS, screening of blood for HIV and testing of individual practising risk behaviours. The National AIDS Control Organisation (NACO) was established in 1992 under the Ministry of Health and Family Welfare to implement the programme with the assistance from World Bank to the tune of US \$ 84 million and another US \$ 1.5 million in the form of technical assistance from World Health Organisation. The project was extended up to March 1999. HIV prevalence has been reported in all States and UTs. But the available data indicate that: (i) The highest number of HIV infections have been reported in Maharashtra and Tamil Nadu and among Injectable Drug Users in Manipur; (ii) The predominant mode of transmission of infection in the AIDS patients is through heterosexual contact followed by blood transfusion and blood products and Injectable Drug Use; (iii) Male accounts for 78.6 per cent and females 21.4 per cent out of the reported AIDS cases in the age-group of 15-49 years; (iv) Trends indicate that HIV infection is spreading in two ways; from urban areas to rural areas and from individuals practising risk behaviours to the general population. Data from antenatal clinics indicate rising HIV prevalence among women, which in turn contributes to increasing HIV infection among children; and (v) The major opportunistic infection in the AIDS patients is tuberculosis. Thus it may emerge as a dual epidemic of TB & AIDS in future. As per the HIV sero surveillance reports available to NACO, a cumulative total of 35.5 lakh samples have been screened for HIV, out of which 89,840 have been found sero positive as on October 1999. A cumulative total of 9,504 AIDS cases have been reported in India during this period.

IODINE DEFICIENCY DISORDERS

Iodine is an essential micronutrient and is required at 100-150 mg daily for normal human growth and development. Deficiency of Iodine in the daily diet may cause goitre and other Iodine Deficiency Disorders (IDD). Endemic goitre has been recognised as a major health problem in India. Results of sample surveys conducted in 282 districts of 25 States and five Union Territories have revealed 241 districts endemic for IDD where the prevalence of IDD is above 10 per cent. It is estimated that in India more than 71 million people are suffering from various Iodine Deficiency Disorders. The Government launched fully Central assisted National Goitre Control Programme (NGCP) in 1962 with focus on provision of iodised salt to identified endemic areas. In 1985 the Government decided to iodise the entire edible salt in the country by 1992 in a phased manner. To date the production of iodated salt is 44

lakh MT per annum. About 532 of the 795 private manufacturers licensed by the salt commissioner have commenced production of iodated salt. The NGCP has been redesignated as National Iodine Deficiency Disorders Control Programme (NIDDCP) to emphasise the importance of all the IDD's. As per the directions of the Centre, 29 States/Union Territories have completely banned the use of salt other than iodated salt for edible purpose under PFA Act, while another two States have imposed a partial ban and have also set up IDD monitoring laboratories in their respective health directorates.

DISEASES SURVEILLANCE PROGRAMME

National Surveillance Programme for Communicable Diseases mainly focuses on diseases which has potential of causing large outbreaks such as acute diarrhoeal diseases and cholera, viral hepatitis, dengue/DHF, Japanese encephalitis, leptospirosis and plague. The objective of the programme is capacity building at the district level for strengthening the disease surveillance system and appropriate response to outbreaks. The programme was taken up as a pilot project during 1997-98 in one district each of the five identified States which was extended to another 20 districts of 10 States the same year. During 1998-99, 20 more districts and eight States were added. By the end of the Ninth Plan period, the programme will be extended to cover 100 districts of 31 States/UTs Rs 3.75 crore and Rs 2.71 crore were released to the State authorities as grant-in-aid during 1998-99 and 1999-2000 respectively. A joint assessment of the implementation of the programme by WHO and National Institute of Communicable Diseases was carried out during 1999-2000 in Haryana, Gujarat, Madhya Pradesh, Karnataka, Kerala, Maharashtra and Uttar Pradesh, which were taken up till 1998-1999.

MENTAL HEALTH

The National Mental Health Programme was started in 1982. The Programme envisages a community based approach to the problem, which includes (i) training of the mental health team at the identified nodal institute within the state; (ii) creating awareness about mental health problems; (iii) provide services for early detection and treatment of mental illness in the community itself with both OPD and indoor treatment and follow-up of discharged cases, and (iv) provide data and experience at the level of community in the State and Centre for future planning, improvement in service and research. The District Mental Health Programme started in 1996 is now going on in 20 districts of 18 states. The States/UTs and districts that joined this year were Chandigarh, districts Thrissur (Kerala), Aizwal (Mizoram) and Goalpara (Assam). Mental health authorities have been set up in most of the States. Conditions in mental hospitals are being improved. The National Institute of Mental Health and Neuro Sciences. (NIMHANS), Bangalore has been providing training at the State level.

CANCER

As cancer has a high rate of mortality unless detected and treated early, the

emphasis is on prevention, early detection of cases and augmentation of treatment facilities in the country. Under the National Cancer Control Programme the following schemes are under implementation: (i) Development of Regional Cancer Centres; (ii) Development of Oncology Wing in Medical Colleges; (iii) Setting up of Cobalt Therapy Unit; (iv) District Cancer Control Programme; and (v) Health education and early detection activities. Seventeen Regional Cancer Centres in different States have been recognised as referral and research centres.

GUINEAWORM ERADICATION PROGRAMME

After the successful eradication of Small Pox from the country in 1977, guineaworm disease was targeted for eradication. In 1983-84, India became the first country to launch an eradication programme against the disease, which had been causing great human suffering and economic loss to the people living in the remote rural areas of the country where adequate, safe drinking water was not available. The programme is implemented through the existing primary health care infrastructure of the country in collaboration with the Ministry of Rural Development and the State public health engineering departments.

As a result of the effective strategies and concerted efforts by the Central and State Governments, the last case of guineaworm disease was reported in July 1996. During 1998 and 1999, no guineaworm case was reported in the country.

YAWS ERADICATION PROGRAMME

Yaws is a disfiguring, debilitating non-venereal treponemal infection and is totally preventable. It can be cured and prevented by a single injection of long acting (benzathine benzyl) penicillin. Yaws is amenable to eradication. Yaws occurs in remote areas which have limited accessibility to health care services. The pilot project to eradicate the disease in Koraput district was started in 1996-97. The programme has been extended to Madhya Pradesh, Andhra Pradesh, Maharashtra, Gujarat, Assam, Bihar, Orissa, Tamil Nadu and Uttar Pradesh. The National Institute of Communicable Diseases, Delhi is the nodal agency for monitoring and coordinating the activities of the programme. An amount of Rs 3.7 crore has been earmarked for the Ninth Plan period.

MEDICAL RELIEF AND SUPPLIES

HOSPITALS AND DISPENSARIES

Medical services are primarily provided by the Central and State Governments. Certain charitable, voluntary and private institutions also provide medical relief. The district and sub-divisional hospitals are being farther developed by removing deficiencies in referral services. As on 1 January 1998, there were 15,188 hospitals and the population served per hospital was 63,578.

RURAL HEALTH INFRASTRUCTURE

The Government has started concentrating on the development of rural health infrastructure under the Minimum Needs Programme so as to provide health care services to rural population. The stress in the National Health Policy is on the provision of preventive, promotive, curative and rehabilitative health services to the people. The idea is to place the health of the people in their hands through the primary health care approach.

In the rural areas services are provided through a network of integrated health and family welfare delivery system. As on 30 June 1999 an extensive network of 2,935 Community Health Centres, 22,975 Primary Health Centres and 1,37,271 Sub-centres had been set up to provide primary health care at the grassroot level. One Sub-centre manned by one female and a male multi-purpose worker covers a population of 5,000 in plain areas and 3,000 in hilly, tribal and backward difficult terrain areas. One Primary Health Centre covers a population of 30,000 in the plain areas and 20,000 in tribal and difficult terrain areas. One Community Health Centre covers 80,000 to 1.20 lakh population. It has 30 indoor beds, well-equipped laboratory and X-ray facility.

CENTRAL GOVERNMENT HEALTH SCHEME

The Central Government Health Scheme (CGHS) was started in 1954 with the objective of providing comprehensive medical care facilities to the Central Government employees and pensioners and to their families and to do away with the cumbersome system of medical reimbursement under Central Services (Medical Attendance) Rules, 1944. Besides Central Government employees, the scheme also provides services to the Members and ex-Members of Parliament; Judges of Supreme Court and High Court (sitting and retired); Freedom Fighters; Employees of Semi-Autonomous bodies/Semi-Government Organisations; Accredited Journalists and ex-Governors and ex-Vice Presidents of India. The Scheme was initially started in Delhi. CGHS Services were subsequently extended to the following cities: Allahabad, Ahmedabad, Bangalore, Mumbai, Calcutta, Hyderabad, Jaipur, Jabalpur, Lucknow, Chennai, Meerut, Nagpur, Patna, Pune, Kanpur, Thiruvananthapuram and Guwahati. In addition, employees of the Accountant General of India are being provided CGHS coverage at Bhubaneshwar and Ranchi. There are 241 Allopathic dispensaries for 9.74 lakh card-holders and 43.66 lakh beneficiaries of CGHS. The CGHS facilities to the beneficiaries have also been provided for Indian System of Medicines through dispensaries/units in *Ayurveda*, *Homoeopathy*, *Unani*, *Siddha* and *Yoga*. The number of dispensaries in each system are as follows: *Ayurvedic* dispensaries/Units-31, *Homoeopathic* dispensaries/Units-34, *Unani* dispensaries/Units-nine, *Siddha* dispensaries/Units-two and *Yoga*-three. There are 19 polyclinics, 72 laboratories and 17 Dental Units functioning under CGHS.

The CGHS beneficiaries now have the option of availing specialised treatment at a CGHS recognised hospital of their choice after a specialist of CGHS/Government hospital has recommended the procedure. The

reimbursement is, however, restricted to the package rates/ceiling laid down by the Government.

EMERGENCY MEDICAL RELIEF

India with her variety of geographical features is the most disaster prone country of Asia-Pacific region as it is exposed to devastating floods, cyclones and landslides all the year round. On 29 October 1999, an unprecedented super cyclone with heavy rains caused extensive damage to the life and property in Orissa. As part of massive relief operations in Orissa the Ministry rushed a team of medical officers and relief items, valued at Rs 2.76 crore approximately.

Disaster management is the responsibility of State Governments. The Directorate General of Health Services under the Ministry of Health and Family Welfare, provides technical assistance to the States to improve the health sector. The responsibility is discharged by the Emergency Medical Relief Division of the Directorate. For this purpose, a constant communication is maintained with the State governments. The Division also co-ordinates medical supplies to the foreign countries as humanitarian assistance on behalf of the Ministry of External Affairs.

DRUGS

The Drugs and Cosmetics Act, 1940, as amended from time to time, regulates import, manufacture, sale and distribution of drugs and cosmetics in the country. Under the Act, import, manufacture and sale of sub-standard, spurious, adulterated or misbranded drugs are prohibited. The Government is empowered to check the quality of imported drugs, coordinate the activities of the States, lay down regulatory measures and standards of drugs and grant an approval for the import or manufacture of new drugs. The control over the quality of drugs which are manufactured, sold and distributed in the country, is exercised by State governments. Zonal offices of the Central Drugs Standards Control Organisation (CDSCO) at Mumbai, Calcutta, Ghaziabad and Chennai, and sub-zonal offices at Lucknow, Patna and Hyderabad maintain close liaison with state organisations for enforcement of the provisions of this Act. CDSCO also arranges training programmes for the personnel concerned with drugs standard control. Central Drugs Laboratory (CDL), Calcutta functions as the testing laboratory for imported drugs and analytical quality control of drugs manufactured within the country on behalf of the Centre assisted by Central Indian Pharmacopoeia Laboratory, Ghaziabad and Central Drug Testing Laboratory at Chennai and Mumbai and State Drugs Control Authorities. CDL, Calcutta is the appellate laboratory under the Drugs and Cosmetics Act to test samples of drugs sent to it by courts. Central Licensing Approval Authority (CLAA) at CDSCO, New Delhi approves the licences for blood banks, blood products, large volume parenterals, sera and vaccines jointly with the state licensing authorities. The Central and State governments are advised on technical matters by the Drugs Technical Advisory Board constituted under the Act.

The Department of Chemicals and Petrochemicals controls the prices of bulk drugs and formulations under statutory control since 1962. Currently it is governed by the Modified Drugs (Prices Control) Order, 1994. As a result of these measures, the wholesale price index of drugs and medicines has been kept at a steady level *vis-a-vis* other commodities.

VACCINE PRODUCTION

India is self-sufficient in the production of all vaccines, including measles, required for the National Immunization Programme, except polio. The Polio vaccine is being imported in bulk in a concentrated form and blended at the Haffkine Bio-Pharmaceutical Corporation Limited, Mumbai; Bharat Immunologicals and Biologicals Corporation Limited, Bulandshahar (UP), Panacea Biotech Limited, Delhi and Biomed Private Limited, Ghaziabad (UP). The indigenous production of polio vaccine may be started very soon. After commissioning of two freeze driers with vital stoppering facility, BCG Vaccine Laboratory Guindy, Chennai would be able to meet the demand of the BCG vaccine.

NUTRITION

Major nutritional problems in India are Protein Energy Malnutrition (PEM), Iodine Deficiency Disorders (IDD), Vitamin A Deficiency (VAD) and anaemia. Besides, fluorosis is also prevalent and lathyrism is localised to certain regions. The Nutrition Cell in the Directorate General of Health Services provides technical advice on all matters related to nutrition. State nutrition divisions set up in 17 States and Union Territories assess the diet and nutritional status in various groups of population, conduct nutrition education campaigns, supervise supplementary feeding programmes and other nutritional ameliorative measures. The Integrated Child Development Scheme (ICDS) provides a package of services to control nutritional and health problems. To prevent blindness among children due to Vitamin A deficiency, a concentrated dose of Vitamin A is given orally to children along with their immunization. Similarly, to prevent nutritional anaemia among women and children, tablets of iron and folic acid are distributed through health centres. The National Institute of Nutrition, Hyderabad and All India Institute of Hygiene and Public Health, Calcutta are the principal organisations for nutrition research and training.

MEDICAL EDUCATION AND RESEARCH

INDIAN COUNCIL OF MEDICAL RESEARCH

The Indian Council of Medical Research (ICMR), an autonomous organisation under the Ministry of Health and Family Welfare, is the apex body for the formulation, coordination and promotion of biomedical research in India. Its activities comprise developing strategies for medical research on a national basis, identifying priority areas of research, formulating research programmes and operationalisation of these research programmes through grant-in-aid to research institutes, medical colleges and universities. ICMR's main research

programmes are conducted largely through Extramural Research Programme by involving 31 Human Reproduction Research Centres located in Medical Colleges in different parts of the country. The Intramural Research Activity is being carried out through Institute for Research in Reproduction, Mumbai and National Institute of Nutrition, Hyderabad. Grant-in-aid is being given to the ICMR on a yearly basis for undertaking research in contraceptive technology under the National Family Welfare Programme.

MEDICAL COUNCIL OF INDIA

The Medical Council of India (MCI) was established as a statutory body under the provisions of the Indian Medical Council Act, 1933 which was later repealed by the Indian Medical Council Act, 1956 with minor amendments in 1958. A major amendment in the I.M.C. Act, 1956 was made in 1993 to stop the mushroom growth of medical colleges/increase of seats/starting of new courses without prior approval of the Ministry of Health and Family Welfare. The main functions of the Council are maintenance of uniform standard of medical education both at the undergraduate and the post-graduate level; maintenance of Indian Medical Register; reciprocity with foreign countries in the matter of mutual recognition of medical qualifications; continuing medical education and granting of provisional/permanent registration of doctors with recognised medical qualifications, registration of additional qualifications and issue of Good Standing Certificate for doctors going abroad to commonwealth countries. At present there are 171 medical colleges in the country out of which 147 medical colleges have been recognised by MCI and 21 new medical colleges permitted by the Central Government to conduct MBBS course. The admission capacity in these colleges is approximately 17,000 students per year.

DENTAL COUNCIL OF INDIA

Dental Council of India was established under the Dentists Act, 1948 with the prime objective of regulating dental education, profession and its ethics in the country. It periodically carries out inspections of dental institutions to ascertain the adequacy of teaching facilities. One hundred and twenty six dental colleges are functioning in the country with an admission capacity of 7,020 students in the BDS courses.

PHARMACY COUNCIL OF INDIA

The Pharmacy Council of India is a statutory body constituted under the Pharmacy Act, 1948. It is responsible for regulation and maintenance of uniform standard of training of pharmacists. It also prescribes syllabi and regulations for diploma courses in pharmacy and registration of pharmacists. At present, there are 343 institutions imparting Diploma in Pharmacy to 20,078 students per annum and 132 institutions offering Degree in Pharmacy to 6,680 students.

NATIONAL ACADEMY OF MEDICAL SCIENCES

The National Academy of Medical Sciences (NAMS) was established as a

registered society with the objective of promoting the growth of medical sciences. It recognises talent and merit in the form of election of fellows and members of the Academy. To keep medical professionals abreast with new problems and update their knowledge in those fields for the required delivery of health care, a programme of Continuing Medical Education (CME) is being implemented by the Academy since 1982. As on 25 October 1999, the NAMS has on its rolls seven honorary fellows, 683 fellows and 1,627 members.

HEALTH EDUCATION

The Central Health Education Bureau (CHEB)—an apex Institute in Health Education—imparts in-service training to all categories of personnel in health and related sectors at the state and district levels. They in turn disseminate the message of health awareness in the community at large. The Bureau, set up in 1956, also continues to provide up-to-date information on current issues and development in health education, besides communication and training. The Bureau achieves its objectives through eight technical divisions, namely, Training, Media, Editorial, Health Education Services, Research and Evaluation, Field Study and Demonstration Centre and Health Related Vocational Courses. The Training Division runs a post-graduate Diploma Course in Health Education of two years duration at the University of Delhi; Media personnel training course of eight weeks duration; Certificate courses in Health Education for para-medical professionals, medical officers, teachers and key trainers; district-level medical officers course, etc. Besides about 28 orientation courses of one-day duration are held for Nursing, para-medical professionals and international visitors.

The Media Division is the Information Education and Communication unit of the Bureau. The Editorial Division brings out three periodicals, namely, *Swasth Hind* (English monthly), *Arogya Sandesh* (Hindi monthly) and *Swasth Siksha Samachar*. It also prepares and produces printed materials on important public health subjects. The School Health Division promotes health education in the school system. The Health Education Services Division renders technical guidance to State Health Education Bureaux and assists government and non-government agencies in promoting health education in the country. It also co-ordinates with international and national agencies. The CHEB is a nodal agency for promoting Health-Related Vocational Courses (HRVCs) at the 10+2 stage of education in the country in collaboration with the Department of Education. The HRVC Division develops curricula and text-books for various HRVCs and persuades the States/UTs to start these courses. The Research Division conducts Behavioural Studies on various aspects of health problems that serve as a basis for launching health education campaigns. It also conducts Social Science Research Methods Courses. The Field Study and Demonstration Centres of the Bureau are field laboratories to test and evaluate methods and the media of health education which can be adopted elsewhere.

NATIONAL ILLNESS ASSISTANCE FUND

The National Illness Assistance Fund (NIAF) was set up in 1997 in the Ministry of Health and Family Welfare with an initial contribution of Rs five

crore. State Illness Assistance Funds have been set up in 14 States, viz., Andhra Pradesh, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Goa, Gujarat, Madhya Pradesh, Maharashtra, Mizoram, Rajasthan, Tripura, Tamil Nadu and West Bengal. NCT of Delhi, a UT has also set up such fund. These States/UT have been released grant-in-aid as admissible under the Scheme. Other States/UTs have been requested to set up the Fund. All five UTs (without legislature) have also set up Committees to screen cases of medical treatment. These UTs were sanctioned an outlay of Rs 50 lakh each during the year 1998-99. In January 1998 it was decided to sanction Rs 10 lakh each from the National Illness Assistance Fund to the three Central Government Hospitals in Delhi and three institutes of national repute viz., AIIMS, New Delhi, PGIMER, Chandigarh and JIPMER, Pondicherry to provide assistance up to Rs 25,000 per case to the patients living below the poverty-line. The scheme was subsequently extended to NIMHANS, Bangalore.

FAMILY WELFARE

India is the largest functioning democracy in the world with the second largest population. On 2.4 per cent of the world's land area she supports 16 per cent of its population. The population is increasing by about 18 million every year. Recognising that the planning of families would enhance individual health and welfare, the Government of India was the first in the world to initiate a comprehensive Family Planning Programme in 1951. In keeping with the democratic traditions of the country, the Family Welfare Programme seeks to promote on a voluntary basis, responsible and planned parenthood, through independent choice of family welfare methods best suited to the acceptors.

At the time of India's Independence, there were but few health facilities serving the rural poor. The past five decades have witnessed significant investments in developing a network of health centres all over India. Through this vast infrastructure of sub-centres, primary health centres and community health centres, the Government has been playing the role of a facilitator by providing family planning services for the people to plan their families.

The investments made have shown significant results, death rates have declined significantly, infant mortality rate has been halved and life expectancy has almost doubled since Independence though a lot of ground is yet to be covered.

Since success of the family welfare programme is dependent on various factors like improved literacy rate, female education, socio-economic status of individuals and families, etc., the Cairo Conference on Population Development in 1994 called for a broad based approach to population stabilization and fulfilling the reproductive needs of people. The Government of India is a signatory to the Plan of action emerging out of the Cairo Conference.

The Child Survival and Safe Motherhood (CSSM) programme introduced

in 1992 has brought about great improvements in the field of immunization. A remarkable decline in the reported incidents of vaccine preventable diseases mark the CSSM period.

REPRODUCTIVE AND CHILD HEALTH PROGRAMME

The Reproductive and Child Health (RCH) Programme which was launched on 15 October 1997, draws its mandate from the Programme of Action of the International Conference on Population and Development 1994. Under the RCH Programme, a comprehensive package of services for family planning, maternal and child health and management of reproductive tract infections, including sexually transmitted diseases is being implemented. Inputs are provided to improve the delivery system of facilities provided to bridge the gap between services provided and unmet need. In addition, the emphasis is on ensuring quality services by making available requisite logistics, in-service training and monitoring and supervision. A differential approach has been adopted while providing inputs to various districts to ensure that these are commensurate with the capacity of the individual districts to utilize them effectively.

The various districts have been categorized as A(58), B(184) and, C(265) on the basis of Crude Birth Rate and Female Literacy Rate which reasonably reflect the RCH status of the district. The districts have been covered in a phased manner over three years.

The estimated cost of the RCH programme will be Rs 5,112.53 crore during the Ninth Plan. The RCH initiatives in the form of a nationwide programme will cost Rs 4,565.03 crore. This would be supplemented by 24 District Projects in 17 States, costing Rs 283.88 crore, which will be strengthened by inputs for infrastructures and facilities to bring them up to the State level. Foreign assistance for the RCH programme will be worth more than US \$ one billion during the Ninth Plan. The World Bank has sanctioned phase-II of the project to begin after two-and-a half years. The European Commission has approved the project for US \$ 250 million, UNICEF for US \$ 121 million and UNFPA for US \$ 100 million. Bilateral agencies like DANIDA, DFID, KFW have also committed themselves to sizeable amounts.

COMMUNITY NEEDS ASSESSMENT APPROACH

From 1 April 1996 the Family Welfare Programme is being implemented all over India on the basis of target-free approach. This approach renamed Community Needs Assessment Approach, envisages replacement of the system of setting contraceptive targets from the top by a system of decentralized participatory planning at the grassroots level. The decentralized planning will take into action the needs of the community and is expected to lead the improvement in quality of services, client satisfaction as well as greater acceptance by the people.

PULSE POLIO PROGRAMME

In order to accelerate polio eradication, Pulse Polio Immunization was launched in 1995-96 to cover all children in the age-group of 0-3 years. From 1996-97, the age-group was increased to 0-5 of age. During 1999-2000, strategy was further revised and four nationwide rounds from October 1999 to January 2000 were organised and during each of these rounds more than 14.6 crore children were covered. Two sub-national Pulse Polio Immunization rounds were also held in the eight high risk states of Assam, Bihar, Gujarat, Rajasthan, Madhya Pradesh, Punjab, Uttar Pradesh and Orissa during February and March. During each of these rounds house-to-house search of missed children was conducted for vaccination at the door-step.

There has been significant decline in the number of polio cases reported from 28,257 in 1987 to 2,810 cases in 1999. During 2000 (till May), 70 cases were reported of which 34 cases were from Uttar Pradesh and 28 from Bihar. Two nation-wide rounds have been recommended in December 2000 and January 2001 and one sub-national immunization round in Delhi, Uttar Pradesh, Bihar and West Bengal in September and one sub-national PPI round in November 2000 in Assam, Rajasthan, Gujarat, Madhya Pradesh, Punjab, Uttar Pradesh and Orissa. Four states were covered in September 2000. Extensive mop up operation has already been initiated in all States other than Uttar Pradesh, Bihar, Delhi and West Bengal against confirmed cases of polio 2000.

ACHIEVEMENTS

The National Family Welfare Programme was launched in India in 1951 with the objective of reducing the birth rate to the extent necessary to stabilise the population at level consistent with the requirements of the National Economy (First Five Year Plan Document). The achievements of the Family Welfare Programme since its inception are summarised below :

S.No.	Parameter	1951	1981	1991	Latest	(Source and year in parenthesis)
1.	Birth Rate	40.8	37.20 (Census)	29.5 (SRS)	26.5	(SRS 98)
2.	Death Rate	25.1	15.0 (Census)	9.8 (SRS)	9.0	(SRS 98)
3.	Total Fertility Rate	5.99	4.5	3.6	3.3	(SRS 97)
4.	Infant Mortality Rate (per 1,000 (live births))	146.0	110.0	80.0	72.0	(SRS 98)
5.	Couple Protection Rate (per cent)	10.4	22.8	44.1	44.0	(Service data-99)
6.	Cumulative number of births averted (in million)	—	44.2	130.1	241.97	(31 March 1999)

SRS - Sample Registration System

India's population rose from 36.11 crore in 1951 to 84.63 crore as per exponential growth rate of population during 1981-91 decade would have been of the order 2.71 per cent as against 2.14 per cent actually registered in 1991 census. As per the Sample Registration System (SRS) the annual natural growth rate of population has come down to 1.75 per cent in 1998 from 1.97 per cent in 1991.

Among the States, there is considerable variation in reducing the growth of population. States like Kerala and Tamil Nadu with crude birth rates of 18.3 and 19.2 respectively have performed very well. On the other hand, the crude birth rate in Bihar (31.1), Madhya Pradesh (30.7), Rajasthan (31.6) and Uttar Pradesh (32.4) which constitute about 40 per cent of India's population, are higher than the national average of 26.5 per thousand population in 1998. Total fertility rates in Bihar (4.4), Madhya Pradesh (4.0), Rajasthan (4.2) and Uttar Pradesh (4.8) are significantly higher than the all India average of 3.3. Similar variations are seen in respect of the infant mortality rates. At one end of the spectrum, Kerala has an IMR of only 16 per thousand live births whereas it is as high as 98 in Madhya Pradesh and in Orissa.

IMPLEMENTATION MACHINERY

The Family Welfare Programme is implemented through the State Governments with full Central assistance. In rural areas, services are provided through the network of sub-centres, primary health centres and community health centres. Establishment of sub-centres has been made a hundred per cent Centrally-sponsored scheme (except the salary of male health worker and construction of sub-centre building) since April 1981. Against the requirement of 1.34 lakh sub-centres, there are 1.37 lakh sub-centres functioning as on 30 June 1999.

BIRTH CONTROL METHODS

During 1999-2000, 44.4 lakh sterilisations were performed in the country. The number of IUD insertions during the same period was 60.8 lakh. Besides, there were 152.3 lakh condom-users and 65.4 lakh OP-users. It is estimated that 44 per cent of 16.86 crore eligible couples were protected by one or the other approved family planning methods as on 31 March 1999 averting 241.97 million births, since the inception of the programme.

SOCIAL MARKETING OF CONTRACEPTIVES

Social Marketing of Contraceptives aims at making contraceptives available to that segment of population which can afford to buy the same from the market at a lower cost. Under the scheme of Social Marketing of Contraceptives, condoms and oral pills are currently being sold at subsidised prices through the distribution network of private/public marketing companies and NGOs. Subsidy ranging from 55-91 per cent on the procurement cost is being provided by the Government.

MATERNAL HEALTH PROGRAMME

The existing maternal health situation of the country is a cause of concern

for all. India's maternal mortality rate is 408 per one lakh live births. The causes of maternal deaths are known and treatable. However, it is not largely preventable or predictable. To tackle this enormous problem, a number of interventions have been provisioned for the current Reproductive and Child Health (RCH) programme. They are : provision of emergency obstetric care through establishment of First Referral Units; promotion of institutional delivery by providing round-the-clock delivery services in PHCs/CHCs; ensuring early ante-natal registration of pregnant women to provide regular check-ups for taking preventive and promotive steps and to detect early complications to enable prompt action; at least three ante-natal check ups to monitor the progress of the pregnancy as well as three post-natal check ups to monitor the post-natal recovery have been provided for; linking the community with service delivery system through *Panchayat* by providing corpus fund for transportation costs of the pregnant women from poor families; improve mobility of ANMs for better outreach services, and community awareness through IEC as well as training.

MEDICAL TERMINATION OF PREGNANCY

On an average, 12.15 per cent of maternal death results every year in India from unsafe abortion practices. Medical Termination of Pregnancy is an important component of the ongoing RCH Programme and safe abortion one of the important means of reducing maternal mortality. In order to prevent these health hazards to women, the Medical Termination of Pregnancy Act, 1971 was promulgated. Under this Act, medical termination of pregnancy can be done in pregnant women up to 20 weeks, if pregnancy is likely to result in birth of a congenitally malformed child or continuation of pregnancy is likely to harm the mother in the existing circumstances and in cases of rape and contraceptive failures. Since the inception of the programme in 1971, 120 lakh terminations up to June 1999 were conducted under the MTP Act.

PREVENTION OF PRE-NATAL SEX DETERMINATION

Any test to determine the sex of an unborn child has become illegal since the Pre-natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 came into effect from January 1996. Punishment is prescribed for illegal use of pre-natal diagnostic techniques like ultrasonography, amniocentesis, etc., to determine and communicate the sex of an unborn child (foetus) to prospective parents. These techniques can be utilised only for detecting certain abnormalities, subject to the fulfilment of specific conditions mentioned in the Act. These techniques can be conducted and genetic counselling can be offered only by genetic clinics, genetic laboratories and genetic counselling centres registered under the Act.

The Department has launched a mass media campaign on this issue through press advertisements and video spots to raise awareness about the provisions of the Act.

RESEARCH AND EVALUATION

The Union Ministry of Health and Family Welfare has established a network of 18 Population Research Centres (PRCs) in 17 states including the National

Capital Territory of Delhi. These PRCs are located in various universities (12) and other institutions (6) of national repute. These Centres carry out research on various topics of population stabilization, demographic, socio-demographic surveys and communication aspects of population and family welfare programme. The PRCs are autonomous in their functioning. The Central Government provides 100 per cent financial assistance in the form of grant-in-aid on yearly basis. During 1999-2000, these Centres completed 91 research studies/papers.

INDIAN SYSTEMS OF MEDICINE AND HOMOEOPATHY

The Indian Systems of Medicine such as *Ayurveda*, *Siddha*, *Unani* and drugless therapies like *Yoga* and *Naturopathy* have been widely practised in India for centuries. These systems attained a high level of development centuries ago and were the only stream of health care in pre-British India. Homoeopathy, though relatively a new system of medicine which originated in Germany, has been widely accepted and practised in India. These systems offer a range of safe, sure, cost effective, preventive and curative therapies which could be useful in addressing many health problems in a cost effective manner.

In post-Independence India, the Government recognised the merit of each of the Indian Systems of Medicine & Homoeopathy (ISM&H) and made attempts to develop them as viable systems of medicine for the health care needs of our people. It was felt that the goal of the World Health Organisation of 'Health for All' cannot be achieved through the modern Allopathic system alone and there is need to involve the ISM&H practitioners in the national mainstream for achieving this goal. This has resulted in the recognition of our traditional systems of *Ayurveda*, *Siddha* & *Unani*, Homoeopathy, *Yoga* and *Naturopathy* as National Systems of Medicine along with Allopathy. This recognition has paved the way for the organised development of all these six systems of Medicine, each on the basis of its own individual philosophy, merit and stregnth.

INSTITUTIONAL FRAMEWORK

These systems use plant-based drugs though drugs of minerals and marine origin are also used. These systems have had a broad policy support of the Government. As a result, a good institutional framework exists today, which consists of Statutory Regulatory Councils, Research Councils, National Institutes, Pharmacopoeial Laboratories and drug manufacturing units.

Statutory Regulatory Councils: The Central Council of Indian Medicines (CCIM) and the Central Council for Homoeopathy (CCH) were set up under the Acts of Parliament. *Ayurveda*, *Siddha* and *Unani* systems are within the ambit of the Central Council of Indian Medicines and Homoeopathy under the Central Council for Homoeopathy. These councils prescribe course curricula, evolve and maintain standards of education and maintain central registers of physicians of *Ayurveda*, *Siddha*, *Unani* and Homoeopathy respectively.

Research Councils : There are four apex research councils, namely, Central Council for Research in *Ayurveda* and *Siddha* (CCRAS), Central Council for Research in *Unani* Medicines (CCRM), Central Council for Research in Homoeopathy (CCRH) and Central Council for Research in *Yoga* and Naturopathy (CCRYN). CCRAS, CCRM and CCRH conduct research through a number of units spread out in the country. These councils are engaged in conducting clinical research in health care, drug research covering survey and cultivation of medicinal plants, pharmacognosy, pharmacology, toxicology, drugs standardisation, literary research for revival of the ancient classical literature and research into ante-natal and post-natal care and the development of contraceptive drugs.

National Institutes : The Department of Indian Systems of Medicine & Homeopathy has seven national institutes, namely, National Institute of *Ayurveda*, Jaipur; National Institute of Homoeopathy, Calcutta; National Institute of *Unani* Medicine, Bangalore; National Institute of *Siddha*, Chennai; National Institute of Naturopathy, Pune; Morarji Desai National Institute of *Yoga*; New Delhi and Rashtriya *Ayurveda* Vidyapeeth, New Delhi.

Drugs Regulation : The Indian Systems of Medicine & Homeopathy (ISM&H) drugs are covered under Drugs & Cosmetics Act 1940. There is a separate Drugs Technical Advisory Board for *Ayurveda*, *Siddha* and *Unani* (ASU) drugs. Drugs manufacturers are licensed by the State Drugs authorities. Good manufacturing practices have been laid down for the manufacturing units.

Manufacturing Unit : The Indian Medicine Pharmaceutical Corporation Limited, Mohan, Uttar Pradesh is engaged in the manufacturing of *Ayurveda* and *Unani* drugs according to classical formulation. The company manufactures over 300 *Ayurveda* and *Unani* drugs.

There is a huge health care infrastructure under ISM&H available in India consisting of 2,854 hospitals, 22,735 dispensaries, 9,496 pharmacies manufacturing drugs and 5.87 lakh practitioners of Indian medicine and Homeopathy in the country.

An outlay of Rs 266.35 crore has been allocated under Plan during the Ninth Plan period. The Plan allocation for 2000-2001 is Rs 100 crore.

THRUST AREAS FOR DEVELOPMENT

The Department of ISM&H has adopted the following thrust areas for the development and promotion: (1) Improvement and upgradation of standards of education of ISM&H; (2) Standardisation of Drugs and quality control; (3) Ensuring sustained availability of raw material, i.e., medicinal plants, metal and minerals, materials of marine and animal origin, etc.; (4) Research & Development; (5) Information, Education and Communication; and (6) Participation of ISM&H in the National Health Care Programme and Family Welfare Programme.

STANDARDS OF EDUCATION

There are 344 under-graduate colleges and 49 post-graduate *Ayurvedic* colleges in the country. Fourteen post-graduate colleges have also been established under *Unani*, *Homoeopathy* and *Siddha* systems. The Government has also set up national-level educational institutions for each system as model institutes to promote excellence in ISM&H education.

The Government of India has been providing financial assistance to under-graduate colleges. As a part of the continuing education and in order to instil confidence and to update the skills, a reorientation training programme for teachers, physicians and para-medics has been implemented. The State Governments sponsor teachers and physicians to these courses. Meanwhile, an add-on component of ISM&H pharmacy education has been incorporated in the existing schemes for strengthening ISM&H under-graduate and post-graduate colleges. In the field of Yoga and Naturopathy education, the course content has been worked out. The question of having a separate regulatory body is under examination. However, a mechanism is being evolved for granting accreditations to institutes conducting Diploma/Degree course pending establishment of a Statutory Regulatory Body for Yoga and Naturopathy. The Statutory Regulatory Bodies, namely, CCIM and CCH, lay down the minimum standards of education and norms, curriculum, etc., for our systems and register the practitioners of these systems. Also, an international/national exchange programme has been introduced for propagating Indian Systems of Medicine at international level.

STANDARDISATION OF DRUGS

Pharmacopoeia Committees of *Ayurveda*, *Siddha*, *Unani* and *Homoeopathy* have been evolving standards for drugs. Standards for 158 *Ayurvedic* drugs have been published and standard for another 100 drugs are under process. Homoeopathy Pharmacopoeia Committee has evolved standards for 916 drugs contained in eight volumes and *Unani* Pharmacopoeia Committee has set down standards for 269 drugs. *Siddha* Pharmacopoeia Committee has evolved standards for 200 drugs. Pharmacopoeia Committees are taking forward the laying of standards for more drugs. At present two drug testing laboratories of the Department, viz., Pharmacopoeial Laboratory for Indian Medicine, Ghaziabad and Homoeopathic Pharmacopoeia Laboratory, Ghaziabad are providing the technical support to these Pharmacopoeial Committees. A project has been prepared for strengthening these laboratories by providing additional infrastructure. Similarly, scheme for strengthening drug testing laboratories and drug manufacturing units of the States/UT Governments has been prepared for ensuring availability of quality drugs of *Ayurveda*, *Siddha* and *Unani* manufactured in state pharmacies. In order to accelerate the work of evolving of standards, research institutions/laboratories have been involved to work on the standards for 10 drugs each per year. Thirty-two such organisations have been provided financial assistance for evolving standards for 300 drugs. The drug research-units of the research councils are also engaged in this work.

Ayurveda/Siddha/Unani Drugs Technical Advisory Board and the Drug Consultative Committee have been set up to advise the Government on matters relating to ISM drugs. A scheme for recognising Private Drug Testing Laboratories for ASU drugs is under process. Certain basic tests of drugs are being encouraged.

RAW MATERIALS

Medicinal plants, minerals, metals and materials of marine and animal origin are the raw materials used in the preparation of ISM&H drugs. Eighty per cent of the drugs are based on medicinal plants. The Department has taken steps to enhance the supplies of medicinal plants by their conservation and preservation through *in situ* and *ex situ* cultivation, developing tissue culture, storage in gene banks, developing large-scale gardens of medicinal plants, etc. A special scheme to provide assistance to research organisations for development of agro techniques has been introduced in which Government and semi-government organisations have been involved. Thirty-four such organisations are participating in the scheme and 125 plants have been allotted to them. The Department has recently begun the process for setting up a Medicinal Plants Board which will coordinate conservation, cultivation, marketing and export of medicinal plants.

RESEARCH AND DEVELOPMENT

The four apex councils, viz., (i) Central Council for Research in Ayurveda & Siddha (CCRAS), (ii) Central Council for Research in Unani Medicine (CCRUM), (iii) Central Council for Research in Homoeopathy (CCRH) and (iv) Central Council for Research in Yoga & Naturopathy (CCRYN) are carrying out research activities like clinical research, drug standardisation research, drug proving research, family welfare research, tribal research, etc. The CCRAS has 33 units in the country. The Council has patented 18 Ayurvedic & Siddha drugs. The CCRUM has a network of 32 institutions/units spread all over the country. This council is in the process of patenting the products developed by it. CCRH has a network of 50 institutes/units in the country. The CCRYN is providing grants to voluntary yoga and nature cure institutions for undertaking various activities, viz., conducting clinical research, strengthening patient care centres, running one-year diploma courses and conducting seminars/workshops/conferences, etc.

INFORMATION EDUCATION AND COMMUNICATION

The Indian Systems of Medicine & Homoeopathy can offer excellent and effective treatment for many diseases for which Allopathy has no cure. There is need to create awareness about the merits of these systems. ISM&H has brought out pamphlets on home remedies for common ailments in Ayurveda and Unani. The existing scheme for creating awareness and popularise these systems through NGOs is being made broad based.

The Department has also mounted its own website <http://mohfw.nic.in/ismh/> for wider dissemination of information of the departmental activities.

10 Welfare

INDIA is a welfare state, committed to the welfare and development of its people in general and of vulnerable sections in particular. The Preamble, Directive Principles of State Policy, Fundamental Rights and specific sections, namely, Articles 38, 39 and 46, in the Constitution of India, stand testimony to the commitment of the State to its people.

Welfare is not a matter of charity. Welfare programmes in the beginning were directed to provide a few basic curative and rehabilitative services. Over the years, a developmental orientation in contrast to curative and custodial approach was given to welfare programmes. At present these are oriented towards providing social justice and empowerment to the disadvantaged and marginalized sections of the society viz., scheduled castes, scheduled tribes, other backward classes, minorities, disabled, aged persons, street children and drug addicts.

The Ministry of Social Justice and Empowerment is responsible for looking after the welfare of the scheduled castes, minorities, backward classes, children in need of care and protection, aged person, persons with disability and victims of drug abuse besides animal welfare. The subject of Scheduled Tribes has been transferred to the Ministry of Tribal Affairs, which was created on 13 October 1999.

ADMINISTRATIVE SET-UP

The responsibility for implementation of the targeted schemes is being shared between Central and State governments. The Central government is responsible for formulating the related policies and programmes besides coordinating and promoting implementation of services by states. The activities of Ministry of Social Justice and Empowerment are carried out through four bureaux, viz., handicapped welfare, social defence, scheduled castes development and minorities and backward classes.

WELFARE OF SCHEDULED CASTES

The scheduled castes (SC) are specified in accordance with Article 341 of the Constitution. According to 1991 census, the population of scheduled castes was 13.82 crore constituting 16.48 per cent of the country's total population of 84.63 crore. As compared to 1991 census (SC population of 15.75 per cent of the then total population), there has been a slight increase in SC population in terms of percentage. While the Constitution has prescribed certain protective measures and safeguards for these classes, successive Five Year Plans have regarded their progress as a major objective of national policy.

CONSTITUTIONAL SAFEGUARDS

The Constitution prescribes protection and safeguards for scheduled castes, scheduled tribes and weaker sections either specially or by way of insisting on their general rights as citizens with the object of promoting their educational and economic interests and removing social disabilities. Main safeguards are : (i) abolition of untouchability and forbidding its practice in any form (Article 17); (ii) promotion of education and economic interest and their protection from social injustice and all forms of exploitation (Article 46); (iii) throwing open by law of Hindu religious institutions of public character to all classes and sections of Hindus (Article 25(b)); (iv) removal of any disability, liability, restriction or conditions with regard to access to shops, public restaurants, hotels and places of public entertainment or use of wells, tanks, bathing ghats, roads and places of public resort maintained wholly or partially out of state funds or dedicated to the use of general public (Article 15 (2)); (v) curtailment by law in the interest of any scheduled tribes of general rights of all citizens to move freely, settle in and acquire property (Article 19 (5)); (vi) forbidding of any denial of admission to educational institutions maintained by the state or receiving grants out of state funds (Article 29(2)); (vii) permitting the state to make reservation for backward classes in public services in case of inadequate representations and requiring the state to consider claims of the scheduled castes and scheduled tribes in the making of appointments to public services (Article 16 and 335); (viii) special representation in the Lok Sabha and State Legislative Assemblies to scheduled castes and scheduled tribes till 25 January 2000 (Article 330, 332 and 335); (ix) setting up of tribal advisory councils and separate departments in states and appointment of a special officer at the Centre to promote their welfare and safeguard their interests (Article 164 and 338 and Fifth Schedule); (x) special provision for administration and control of scheduled and tribal areas (Article 244 and Fifth and Sixth Schedules); and (xi) prohibition of traffic in human beings and forced labour (Article 23).

NATIONAL COMMISSION FOR SCs AND STs

By virtue of the Constitution (Sixty-fifth Amendment) Act, 1990, the Special Officer's post under Article 338 of the Constitution has been substituted by the National Commission for Scheduled Castes and Scheduled Tribes. The Commission has a Chairperson, a Vice-Chairperson and five other members to be appointed by the President. It shall be the duty of the Commission: (a) to investigate and monitor all matters relating to the safeguards provided for the scheduled castes and scheduled tribes under the Constitution or under any other law; (b) to enquire into specific complaints with respect to the deprivation of rights and safeguards of the scheduled castes and tribes; (c) to participate and advise on the planning process of socio-economic development of the scheduled castes and scheduled tribes; and to evaluate the progress of their development under the Union and any state; (d) to present to the President annually, and at such other times as the Commission may deem fit, reports upon the working of these safeguards; (e) to make in

such reports/recommendations as to the measures that should be taken by the Union or any state for the effective implementation of those safeguards and other measures for the protection, welfare and socio-economic development of the scheduled castes and scheduled tribes, and (f) to discharge such other functions in relation to the protection, welfare and development and advancement of the scheduled castes and scheduled tribes as the President may, subject to the provisions of any law made by Parliament, by rule, specify.

The President shall cause all such reports to be laid before each House of Parliament along with a memorandum explaining the action taken or proposed to be taken on the recommendations relating to the Union and the reasons for the non-acceptances, if any, on any of such recommendations. Where any such report or any part thereof, relates to any matter with which any State government is concerned, a copy of such report shall be forwarded to the Governor of the state who shall cause it to be laid before the legislature of the state.

The Commission shall while investigating and monitoring any matter relating to safeguards provided for scheduled castes and scheduled tribes under the Constitution or any other law for the time being in force or under any order of the Government have all powers of a civil court trying a suit and in particular in respect of the following matters, namely: (a) summoning and enforcing attendance of any person from any part of India and examining him on oath; (b) requiring the discovery and production of any document; (c) receiving evidence on affidavits; (d) requisitioning any public record or copy thereof from any court or office; (e) issuing summons for the examination of witnesses and documents; and (f) any other matter which the President may by rule, determine.

The Union and every State government shall consult the Commission on all major policy matters affecting scheduled castes and scheduled tribes

PARLIAMENTARY COMMITTEE

The Government had set up three Parliamentary Committees, first in 1966, second in 1971 and third in 1973 to examine the implementation of the constitutional safeguards for welfare of scheduled castes and scheduled tribes. The Committee has since been constituted as a Standing Committee of Parliament on Labour and Welfare.

WELFARE DEPARTMENTS IN STATES

States and Union Territories have separate departments to look after the welfare of scheduled castes and scheduled tribes and other backward classes. Administrative set-up varies from state to state. In Bihar, Madhya Pradesh and Orissa separate ministers have been appointed to look after tribal welfare as prescribed in Article 164 of the Constitution. Some other states have set up committees of members of state legislatures on the pattern of the Parliamentary Committee at the Centre. All the States having schedule areas including Tamil Nadu and West Bengal have constituted Tribal Advisory

Councils as per the provisions in the Fifth Schedule to the Constitution to advise on matters pertaining to welfare and advancement of scheduled tribes.

VOLUNTARY ORGANISATIONS

A number of voluntary organisations also promote welfare of scheduled castes and scheduled tribes. Among them, the important organisations of all India character are: *Harijan Sevak Sangh*, Delhi; Indian Red Cross Society, New Delhi; Ramakrishna Mission, Narendrapur; *Bhartiya Adimajati Sevak Sangh*, New Delhi; Ramakrishna Mission, Puri, Silchar and Purulia; *Bhartiya Samaj Unnati Mandal*; Bhivandi and Servants of Society, Pune in Maharashtra. The Government also provides grants-in-aid to voluntary organisations of local character working among scheduled castes. During 1999-2000, 376 voluntary organisations were given grant-in-aid to the tune of Rs 26 crore.

LEGISLATION AGAINST UNTOUCHABILITY

For enlarging the scope and making penal provisions more stringent, the Untouchability (Offences) Act, 1955 has been comprehensively amended and renamed as the Protection of Civil Rights Act, 1955 which came into force with effect from 19 November 1976. This Act provides for penalties for preventing any person on grounds of untouchability, from enjoying the rights accruing on account of abolition of untouchability. Enhanced penalties/punishments have been provided for subsequent offences.

The PCR Act, 1955 is administered by State governments. Under the provisions of Section 15A (4) of the Act, the Central government places before each House of Parliament, an annual report on the working of the provisions of Section 15A of the Act. In pursuance of the provisions made under Section 15A (2) of the Protection of Civil Rights Act, 1955, Central assistance is given to State governments and Union Territory administrations for the measures undertaken by them to effectively implement the Act. Provisions for legal aid to scheduled castes in cases relating to untouchability have been made by 23 States/UTs. Special cells/squads have been created by 19 States for initiating and exercising supervision over prosecution for contravention of the provisions of the PCR Act. Twenty States/UTs have set up committees at various levels to make periodical review of the problems of untouchability and cases related to it and also suggest various measures for effective implementation of the PCR Act. Matching Central assistance is provided to the States and on cent-per cent basis to UTs for implementation of the PCR Act. Thirty-eight special courts/special mobile courts have been set up in untouchability-prone districts of Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh and Rajasthan for expeditious disposal of such cases. Necessary guidelines and instructions are issued to states from time to time for effective implementation of the provisions of the PCR Act.

MEASURES TO CHECK ATROCITIES AGAINST SCs AND STs

Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989 which came into force on 30 January 1990, specifies offences which are

considered as atrocities and provides for deterrent punishments for commission of the same. Comprehensive Rules were also framed under the SCs & the STs (POA) Act in 1995 which among other things provide for relief and rehabilitation of the affected persons. It also envisages preventive measures, and states have to evolve schemes, among others, for economic and social rehabilitation of such victims. All States and Union Territories except Arunachal Pradesh and Nagaland have specified special courts for trial of offences under this Act. Exclusive special courts have been set up in Andhra Pradesh, Madhya Pradesh, Rajasthan, Gujarat, Karnataka and Tamil Nadu.

Under the Centrally-sponsored scheme for implementation of the Act, State governments are funded on 50:50 basis and Union Territories are given cent-per cent assistance.

SPECIAL CENTRAL ASSISTANCE

This Central scheme is the most important programme of the Ministry of Social Justice and Empowerment for the alleviation of poverty among scheduled castes people. The underlying objective behind Special Central Assistance (SCA) which provides cent-per cent grant to States and Union Territory as an additive to their special component plans is that it would be used to give an added thrust to the development programmes for scheduled castes people with reference to their occupational pattern and the need for increasing the productivity of and income from their limited assets by taking up family-oriented schemes for them. The SCA is used to fill the critical gaps and vital missing inputs in family-oriented income-generating schemes so as to make the schemes more meaningful and effective. This scheme was started in 1979-80 with a token provision of Rs five crore. The State governments and Union Territory administrations are required to disburse special Central assistance to various sectors and agencies including SCDCs, which are involved in the implementation of economic development programmes for scheduled castes. During 1999-2000, Central assistance of Rs 437 crore was released.

COACHING AND ALLIED SCHEME

The Coaching and Allied Scheme was started in the Fourth Five Year Plan for imparting training to scheduled castes/scheduled tribes in respect of various competitive examinations held by recruiting bodies such as Union Public Service Commission, State public service commissions, public-sector undertakings, banking service recruitment boards and similar agencies. Grant is given to the Pre-Examination Training Centres (PETCs) which are run either by the State/UT governments or universities or private institutes. Financial assistance is provided to State governments on a matching basis 50:50 over and above their committed liabilities. The UT administrations, universities and private institutes are given cent-percent grants. Some of the coaching centres have made considerable contribution enabling SC/ST candidates to get into IAS and allied services, medical, engineering and banking services. During the year 1999-2000, Rs 2.30 crore were released.

BOOK BANK SCHEME

The Book Bank Scheme is intended to provide text-books required for the students belonging SCs/STs pursuing medical and engineering degree courses. From 1991-92 agricultural, veterinary and polytechnic courses have also been included under the scheme. A group of two students are provided one set of text-books. During 1999-2000, Rs 2.43 crore were released.

PRE-MATRIC SCHOLARSHIPS

Begun in 1977-78, this scheme is for education development of those who are engaged in the so-called unclean occupations, *viz.*, scavenging of dry latrines, tanning, flaying and sweeping with traditional links with scavenging. The scheme as modified with effect from 1 November 1991 provides scholarship of Rs 25 per month in classes I to V, Rs 40 per month in classes VI to VIII and Rs 50 per month in classes IX to X, in respect of day-scholars. For hostellers, a scholarship of Rs 200 per month in classes III to VIII and Rs 250 per month in classes IX to X is provided. An *ad-hoc* grant of Rs 500 per annum is also provided to day-scholars as well as hostellers. The scheme was further modified with effect from 25 February 1994. The income ceiling has been removed. There is no restriction as to the number of children of same parents who would be eligible for scholarship up to class VIII, subject, however, to the condition that if a third or subsequent child is born after 1 April 1993, a total of only two children in the family would be eligible for scholarship. In respect of classes IX and X only two children of the same parents would be eligible for scholarship. The additional provisions for students amongst target groups with disabilities have also been introduced with effect from 1 April 1998, keeping in view the provisions of the persons with disabilities. During 1999-2000, Central assistance of Rs 7.88 crore was released benefitting 4.37 lakh (anticipated) students.

POST-MATRIC SCHOLARSHIP FOR SC/ST STUDENTS

The scheme of Post-Matric Scholarship to SC/ST was introduced in 1994-95 with the objective of providing financial assistance to students studying at post-matriculation stages in different schools and colleges so as to enable them to complete their education. Beginning with mere 114 students in 1994-95, the scheme is presently covering nearly 20 lakh students. During 1999-2000 Central assistance of Rs 160.89 crore was released. The income ceilings have been revised from Rs 33,400 and Rs 44,500 per annum to Rs 38,220 and Rs 50,920 per annum. The revised ceilings account for price index for industrial workers up to October 1997. Now all children of the same parents/guardians are eligible to get the benefit of the scheme, if otherwise eligible.

LIBERATION AND REHABILITATION OF SCAVENGERS

A national scheme of liberation and rehabilitation of scavengers and their dependents has been formulated with the following components. (i) time-bound survey for identification of scavengers and their dependents with their aptitudes for alternative trades, etc., (ii) training as per TRYSEM norms in

identified trades at the nearest local training institutions/centres of the State governments/Central government and semi-government and non-government organisations, and (iii) rehabilitation of scavengers in trades and occupations by providing subsidy, margin money loan and bank loan. The scheme provides for funding projects costing up to Rs 50,000 per beneficiary with 50 per cent of the project cost as subsidy with a maximum of Rs 10,000, 15 per cent Margin Money Loan at four per cent rate of interest and balance loan from bank. The expenditure on subsidy and training is met by the Central government and Margin Money Loan is shared between the Central and State governments in the ratio of 49:51. During 1999-2000, Rs 70 crore was released to the States for implementation of the scheme.

NATIONAL OVERSEAS SCHOLARSHIP AND PASSAGE GRANTS FOR HIGHER EDUCATION

The Scheme provides financial assistance to meritorious selected students for pursuing higher studies abroad in specified fields of Masters level courses, Ph.D and Post Doctoral research programmes in Engineering, Technology and Science only. The modified scheme would provide maintenance allowance of US \$ 7,700 per annum or Pounds Sterling 5,000 per annum for candidates in U.K., for courses covered under the scheme. The contingency allowance for books, essential apparatus, study tour charges, etc., has been raised from US \$ 385 to US \$ 500 per annum or Pound Sterling 325 per annum, for candidates in U.K. The modified scheme would also provide reimbursement of actual visa fees in Indian rupees. The scheme also provides air passage by the shortest route and by economy class, by arrangements with the national carrier, poll tax, equipment allowance and incidental journey expenses, actual fees charged by the institution and the medical insurance premia. The awardees are also permitted to supplement their prescribed allowance by undertaking research-teaching assistantship up to US \$ 2,400 per annum or Pounds Sterling 1,560 per annum, for candidates in U.K. and beyond these ceilings, the maintenance allowance will be proportionately reduced. The financial assistance is available to the finally selected students sent abroad, for the maximum period of four years for Ph.D research, for three years for Masters's Programme and for 1 and 1/2 year for Post Doctoral research. The income of the awardees if employed, or of their parents/guardians should not exceed Rs 12,000 per month. Not more than one child of the same parents/guardians is eligible to get benefits of the scheme. The prospective awardee not more than 35 years of age can get only one time benefit. Thirty scholarships (SC-17, ST-9, SC (Convert) 2, Denotified ST-1 and landless agricultural labourer and traditional artisans 1) are provided every year. From inception of the scheme in 1954-55, a total of 732 scholarships have been offered, out of which 532 scholarships have been availed of till 1998.

STATE SCHEDULED CASTES DEVELOPMENT CORPORATION

The scheme for assistance to the state-level scheduled castes development corporations (SCDCs) was introduced in 1978-79 to uplift the SC/ST population

living below the poverty-line. At present SCDCs are functioning in 25 States/ Union Territories. The Centre contributes 49 per cent to the authorised share capital of the SCDC against the 51 per cent contributed by the State government. In 1999-2000, an amount of Rs 20 crore was released as Government of India's contribution.

BABA SAHEB DR AMBEDKAR FOUNDATION

The Foundation was set up on 24 March 1992 as a registered society. The Foundation has been entrusted with the responsibility to manage, administer and carry on the schemes and programmes identified during the centenary celebrations of *Bharat Ratna* Baba Saheb Dr B.R. Ambedkar. These are: (i) Dr Ambedkar National Public Library in Delhi; (ii) Dr Ambedkar Chairs in universities/institutions for research on the thoughts and ideals of Baba Saheb; (iii) Dr Ambedkar National Award for social understanding and uplift of weaker sections; (iv) Dr Ambedkar International Award for social change, harmony, equity, justice and human dignity for the exploited and the underprivileged; (v) Publication of the Collected Works of Baba Saheb Dr Ambedkar in Hindi and other Indian languages; (vi) Putting up Memorial for Dr Ambedkar at 26, Alipur Road, Delhi and (vii) various activities like organising seminars, conferences, workshops, exhibitions and *Melas* on Ambedkar's life and mission.

SCHEDULED TRIBES DEVELOPMENT

In order to give more focussed attention to the development of Scheduled Tribes, a separate Ministry known as the Ministry of Tribal Affairs was constituted in October 1999. The new Ministry, carved out of the Ministry of Social Justice and Empowerment, is the nodal Ministry for overall policy, planning and coordination of programmes and schemes for the development of Scheduled Tribes. It also supports and supplements the efforts of other Central Ministries/Departments as well as States/Union Territories for the development of these communities.

The all-India literacy rate of scheduled tribes as per 1991 Census was 29.60 against the national average of 52.21 per cent. The gap between percentage of literacy of tribal women and general women is still wider. It is only 18.19 per cent against 39.29 per cent of general female literacy in the country. The Tribal Sub-Plan (TSP) strategy which was evolved during the Fifth Five Year Plan is based on the twin objectives: (i) protection of interests of tribals through legal and administrative support; and (ii) promotion of development efforts through plan schemes to raise their level of living. There are now 194 integrated tribal development projects (ITDPs). During the Sixth Plan, pockets outside ITDP areas, having a total population of 10,000 with at least 5,000 scheduled tribes were covered under the Tribal Sub-Plan under Modified Area Development Approach (MADA). So far, 252, MADA pockets have been identified in the country. In addition, 79 clusters with a total population of 5,000 of which 50 per cent are scheduled tribes have been identified.

SPECIAL CENTRAL ASSISTANCE

Special Central Assistance is given to States/UTs to supplement their efforts in tribal development. This assistance is basically meant for family-oriented income-generating schemes in the sectors of agriculture, horticulture, minor irrigation, soil conservation, animal husbandry, forests, education, cooperatives, fisheries, village and small scale industries and for minimum needs programme. During 1999-2000, an amount of Rs 400 crore was released to the States/UTs. Grants are given to States/UTs, under the first proviso to Article 275(1) of the Constitution to meet the costs of projects for tribal development and for raising the level of administration of the Scheduled Area therein on par with the rest of the State/UT. An amount of Rs 100 crore was provided as grants to States/UTs during 1999-2000.

SCHEME FOR PRIMITIVE TRIBAL GROUPS

Based on the pre-agricultural level of technology, low level of literacy, declining or stagnant population, 75 tribal communities in 15 States/UTs, have been identified and categorised as Primitive Tribal Groups. A new Central Sector scheme has been introduced for all round development of these groups from 1998-99 under which financial assistance is made available to Integrated Tribal Development Projects, Tribal Research Institutes and Non-Governmental Organisations for undertaking projects/activities not covered by any of the existing schemes. Financial assistance to the tune of Rs 11.57 crore has been sanctioned under the scheme in the last two years.

TRIBAL RESEARCH INSTITUTES

Fourteen Tribal Research Institutes (TRIs) have been set up by Andhra Pradesh, Assam, Bihar, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, West Bengal, Uttar Pradesh, Manipur and Tripura. These Institutes are engaged in providing planning inputs to the State Governments, conducting research and evaluation studies, collection of data, codification of customary law and conduct of training, seminars and workshops. Some of these Institutes are also having museums exhibiting tribal artifacts. During 1999-2000, a sum of Rs 105.53 lakh was released to the State Governments.

GIRLS/BOYS HOSTELS FOR STs

Girls hostels scheme was started in Third Five Year Plan with the aim of providing residential facilities to tribal girls in pursuit of education. Central assistance of 50 per cent cost of construction to the States, cent percent to the Union Territories is provided under the scheme. During 1999-2000, an amount of Rs 393 lakh has been released for 29 hostels. Boys hostels scheme was started in 1989-90 under the same pattern of scheme. During 1999-2000, an amount of Rs 698.43 lakh has been released for construction of 77 hostels.

ASHRAM SCHOOLS IN TSP AREA

This Centrally-sponsored scheme was started in 1990-91 to provide Central

assistance to the States and Union Territories on, 50 per cent and 100 per cent basis, respectively. During 1999-2000, Rs 532.28 lakh have been released for construction of 36 *Ashram* schools.

VOCATIONAL TRAINING IN TRIBAL AREAS

This scheme under the Central Sector introduced in 1992-93 aims at developing the skills of the tribal youth in order to gain employment/self-employment opportunities. The scheme envisages setting up of vocational training centres (VTCs). During 1999-2000, an amount of Rs 375 lakh has been released for 19 vocational training centres.

EDUCATION OF ST GIRLS IN LOW LITERACY POCKETS

This scheme launched in 1993-94 aims at raising the literacy level of tribal females in 48 identified tribal districts in eight States with female literacy below two per cent. This scheme was revised in July 1998. The scheme envisages residential educational complex from first to fifth standard. The scheme is implemented through the voluntary organisations and State Governments/UTs. During 1999-2000 an amount of Rs 183.76 lakh was released for 75 complexes.

TRIBAL COOPERATIVE MARKETING DEVELOPMENT FEDERATION OF INDIA

The Tribal Cooperative Marketing Development Federation of India (TRIFED) was set up by the Government of India in 1987, with the prime objective of providing marketing assistance and remunerative prices to ST communities for their minor forest produce and surplus, agricultural produce and to wean them away from exploitative private traders and middlemen. The federation is a national level cooperative apex body functioning under the Multi-State Co-operative Societies Act, 1984. The authorised share capital of TRIFED is Rs 100 crore and the paid-up capital has gone up to Rs 99.98 crore in 1999-2000. The Government of India's contribution is Rs 99.75 crore and the balance of Rs 0.23 crore has been contributed by other shareholders.

GRANT-IN-AID FOR MINOR FOREST PRODUCE OPERATIONS

This is a Central Sector Scheme with cent-per cent grant available to the State Tribal Development Cooperative Corporations (STDCCs), Forest Development Corporations (FDCs), and Minor Forest Product (Trading and Development) Federations (MFPTDFs) for taking up the minor forest produce (MFP) operations. Under this scheme grants can be utilised by the States for (i) strengthening the share capital base of STDCCs for increasing the volume of procurement of MFPs; (ii) construction of scientific warehouses; (iii) establishing process industries for value addition to MFP items; and (iv) research and development activities by the corporations. Against a budget provision of Rs 15 crore during 1999-2000, an amount of Rs 9.05 crore was released to seven State Corporations. There is a budget provision of Rs 13 crore during 2000-2001.

VILLAGE GRAIN BANK SCHEME

A Central Sector Scheme of Grain Banks in tribal villages was launched in 1996-97. The scheme was started on a pilot basis in selected areas out of the areas identified by CPC for preventive measures against deaths of children in remote and backward tribal areas by providing a safeguard against fall in nutritional standard to Scheduled Tribes living in remote rural areas. The funds are released by the Ministry through the Tribal Cooperative Marketing Development Federation of India (TRIFED), which is the channelising agency under the scheme. An amount of Rs one crore was released during 1999-2000 whereas Rs two crore have been earmarked for 2000-2001.

AID TO VOLUNTARY ORGANISATIONS WORKING FOR STs

The Ministry gives grant-in-aid to voluntary organisations working for the welfare of the scheduled tribes for projects like residential schools, hostels, medical units, computer training units, shorthand and typing training units, *balwadis*/creches (in areas not covered by ICDS programmes), libraries and audio-visual units. The grant is generally restricted to 90 per cent of the approved total cost of the project and the balance 10 per cent is borne by the grantee organisations. During 1999-2000 an amount of Rs 14.74 crore was released to 137 NGOs.

WELFARE OF BACKWARD CLASSES

Article 15(4) of the Constitution enjoins upon the state the creation of special provisions for the advancement of any socially and educationally backward classes of citizens or for the scheduled castes and scheduled tribes. Another Article 16(4) further enables the state for making provisions for the reservation of appointments or posts in favour of any backward class of citizens, which in the opinion of the state is not adequately represented in the services under the state. The other provisions of the Constitution having a bearing on Article 16 or Articles 38, 46 and the set of articles in part XVI clause (i) of Article 38 makes it obligatory for the state to "strive to promote the welfare of the people by securing and protecting as effectively as it may a social order, in which Justice, Social, Economic and Political shall inform all the institutions of the National Life". Article 46 further contains a very significant directive regarding promotion of educational and economic interests of other weaker sections and protects them from social injustice and all forms of exploitation. Part XVI of the Constitution contains "special provisions relating to certain classes" and under this part Article 340 envisages the appointment of a Commission to investigate the conditions of Backward Classes.

The Government considered seriously the objectives of Articles 15 and 16 of the Constitution and the Second Backward Classes Commission (Mandal Commission) was appointed in 1979. The terms of reference of the Commission included (i) determination of the criteria for defining the socially and educationally backward classes, (ii) steps to be taken for the advancement of socially and educationally backward classes, (iii) desirability or otherwise

of making provision for the reservation of appointments in favour of backward classes which are not adequately represented in public service and (iv) presenting a report setting out the facts as found by the Commission making such recommendations. The Commission submitted its Report on 31 December 1980.

After long deliberations on the recommendations of the Mandal Commission, it was decided by the then Government to implement the same and an Office Memorandum on 13 August 1990 was issued providing 27 per cent reservation for Other Backward Classes (OBCs) in civil posts and services under the Government of India. As a consequence of this Memo, there was widespread protest against the reservation to Other Backward Classes and several Writ Petitions were filed in Supreme Court questioning the said reservation. All the Writ Petitions were disposed of by the Honourable Supreme Court by its judgement dated 16 November 1992. By a majority judgement, the Supreme Court held that the implementation of the Office Memorandum dated 13 August 1990 shall be subject to the exclusion of socially advanced persons (Creamy Layer) amongst the Other Backward Classes. The Supreme Court also directed the Government and each of the State governments to set up a permanent body for reflecting upon the request for inclusion and complaints of over-inclusion and under-inclusion in the list of Other Backward Classes and accordingly a National Commission for Backward Classes (NCBC) was set up on 14 August 1993, which had been reconstituted on 28 February 1997. As per provisions of NCBC Act, 1993, every member holds office for a term of three years from the date of assuming office. The Commission is further being reconstituted.

The Government of India set up an Expert Committee on February 1993 to identify the Creamy Layer and on the basis of its recommendations, issued the Office Memorandum dated 8 September 1993 providing *inter alia* 27 per cent reservation for Other Backward Classes in services under the Government of India, subject to the exclusion of the advanced persons amongst the OBCs (Creamy Layer).

In order to achieve the full implementation of 27 per cent reservation to Other Backward Classes the following benefits have also been extended to them: (i) The Government has provided OBC candidates the benefit of relaxed standards in respect of written examinations and interviews as in the case of SC/ST candidates with effect from 13 October 1994; (ii) On 25 January 1995 the Government issued instructions relaxing the upper age-limit for OBC candidates in direct recruitment by three years and the number of attempts for OBC candidates who are otherwise eligible has been increased to seven in respect of Civil Services Examinations.

As per the directions of the Supreme Court the Government of India has notified the Central List of OBCs comprising in first phase, the castes/communities which are common both in the list prepared by the Mandal Commission and State Backward Classes List for 21 States and five Union

Territories. Recently, three notifications on inclusion/amendment in the Central List of OBCs have been issued by the Government.

NATIONAL BACKWARD CLASSES FINANCE AND DEVELOPMENT CORPORATION

The National Backward Classes Finance and Development Corporation (NBCFDC) was set up by the Government of India under the then Ministry of Welfare on 13 January 1992 as a company, not for profit, under Section 25 of the Companies Act, with the objective of providing concessional finance to the members of backward classes living below the poverty line for their socio-economic development by extending them loans for income generating schemes. The authorised share capital of the Corporation was Rs 200 crores, which has been raised to Rs 700 crore. The issued and paid up capital of the Corporation was Rs 290.40 crore during 1998-99 which has now been raised to Rs 390.40 crore.

The Corporation provides financial assistance in terms of loans/grants to the eligible beneficiaries in the following sectors: agriculture and allied; artisan and traditional occupations; technical trades; small business; small-scale industries and transport services. The cumulative disbursement by Corporation has gone up to Rs 424.83 crore covering 3,09,597 beneficiaries up to 1999-2000.

The Corporation has launched a special scheme for eligible women beneficiaries of backward classes under the name of *Swarnima* who can get financial assistance at concessional rate of interest up to Rs one lakh. The SCAs have been directed to ensure 30 per cent coverage of women beneficiaries under NBCFDC scheme, out of which 5 per cent will be covered under *Swarnima* scheme.

SCHEMES FOR THE WELFARE OF THE OBCs

The following Schemes were launched in 1998-99 for the welfare of OBCs by the Government of India.

(a) Pre-Examination Coaching: The objective of the scheme is to coach candidates belonging to Other Backward Classes (OBCs) to enable them to compete in various competitive/entrance examinations. The candidates whose parents'/guardians' total income including the income of the candidates is below Rs one lakh annually are eligible for admission in the pre-examination coaching centre. An amount of Rs 23 lakh was released to eight organisations under the scheme in 1999-2000.

(b) Hostels for OBC Boys and Girls: The hostels under the scheme will be constructed in States/UTs having a large OBC population but inadequate hostel facilities. The hostels will be constructed for middle, secondary, college and university level students. At least one third of the hostels to be set up will be exclusively for girls. Five per cent of the total seats will be reserved for disabled students. The scheme would, however, not cover students

belonging to the Creamy Layer. Central assistance for construction will be 50 per cent and the remaining cost will be borne by the concerned State government. Hundred per cent Central assistance will be given to the Central government institutions and UTs setting up such hostels. The expenditure on procurement of land, staffing and other maintenance shall be borne by the State government/UT concerned. An amount of Rs 4.3053 crore was released under the scheme to Bihar, Madhya Pradesh, Karnataka, Andhra Pradesh and Sikkim in 1999-2000.

(c) Pre-matric Scholarship for OBCs : Scholarship award will be sanctioned to students whose parents'/guardians' income does not exceed Rs 44,500 per annum. The scholarships are given to the students in class-I or any subsequent class of pre-matric stage to day-scholars and class-II or any subsequent class of pre-matric stage to hostlers. The scholarship will terminate at the end of Class X. The scholarship will be for 10 months in a year. The scholarship will be applicable to the institutions recognised by the concerned State government/UTs. The Central assistance will be 50 per cent. An amount of Rs 5.75 crore was released under the scheme to States of Andhra Pradesh, Bihar, Madhya Pradesh and Tripura in 1999-2000.

(d) Post-Matric Scholarships to the OBCs : The scheme provides financial assistance to the OBC students at post matriculation/post secondary stage to enable them to complete their education. Hundred per cent Central assistance for the scholarship will be provided to the State governments/UTs to which the applicant belongs. The Central scholarships will be open to Indian nationals belonging to OBCs studying in recognised institutions. Students whose parents'/guardians' income does not exceed Rs 44,500 per annum will be entitled for scholarships. An amount of Rs 961.86 crore was released under the scheme to Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh and Tripura in 1999-2000.

(e) Assistance to Voluntary Organisations for Welfare of OBCs : The scheme involves the voluntary sector to improve educational and socio-economic conditions of the OBCs to get them gainfully employed. Assistance will be given to establish centres and develop services which equip the OBCs to start income generating activities. The quantum of assistance is determined on merit by the Government of India, which may be up to 90 per cent of the approved expenditure. An amount of Rs 1.73 crore was released under the scheme to 119 non-governmental organisations in 1999-2000.

WELFARE OF MINORITIES

The Government has notified five communities namely, Muslims, Sikhs, Christians, Buddhists and Zoroastrians as Minorities at the national level. As per Census of 1991 population of minority groups constitutes 17.17 per cent of the total population of the country. The Constitution of India protects the interests of minorities and recognises their rights to conserve their languages, scripts or culture and establish and administer educational institutions of their choice.

To evaluate the working of the various safeguards in the Constitution for the protection of religious minorities and to make recommendations to ensure effective implementation and enforcement of all the safeguards and laws, a Minorities Commission was set up in January 1978. The Commission reviews the implementation of policies of the Union and the State governments towards minorities and submits annual reports to the Government. The National Commission for Minorities Act, 1992 was passed by the Parliament. Under this Act, the National Commission for Minorities was constituted on 17 May 1993 with statutory status replacing the erstwhile Commission. The Commission has a Chairperson, a Vice-Chairperson and five members to be nominated by the Central government. The National Commission has been reconstituted with effect from 21 January 2000.

The Commissioner for Linguistic Minorities appointed under Article 350-B of the Constitution investigates all matters relating to the safeguards provided for linguistic minorities. He looks into representations and complaints received from various associations and individuals belonging to linguistic minorities. The Commissioner has his headquarters at Allahabad, with regional offices at Calcutta, Belgaum and Chennai. So far 35 reports have been laid before the Parliament.

The 15-Point Programme for Welfare of Minorities has the objective of securing life and property of minorities and for providing special consideration for minorities in public employment and ensuring non-discrimination in development programmes and grant of financial benefits. The programme is being implemented by the State Governments and Union Territories and the concerned Central Ministries/Departments.

For improving the employability of minorities in public employment and increasing their intake in professional courses, a pre-examination coaching scheme is being implemented by the Ministry of Social Justice and Empowerment since 1992-93. During the Ninth Plan provision of Rs 12 crore has been made of which Rs 5.51 crore has been released for training 13,150 candidates of the weaker sections among minorities up to March 2000. The Government has approved area-based approach for socio-economic development of minority concentration areas. In the first phase, 41 districts identified on the basis of 1971 Census would be taken up.

NATIONAL MINORITIES DEVELOPMENT AND FINANCE CORPORATION

The Government has set up a National Minorities Development and Finance Corporation with an authorised share capital of Rs 500 crore. The Corporation would provide economic and developmental activities for the benefit of backward sections among the minorities, preference being given to occupational groups and women among minorities. The Government of India have raised the level of its contribution from Rs 125 crore to Rs 300 crore subject to pro-rata contribution from the State governments/UT Administrations towards the share capital of the Corporation. During 1999-2000, the Corporation disbursed Rs 60.78 crore as loan covering 22,510 beneficiaries. The cumulative assistance

provided by the Corporation since 1994-95 amounts to Rs 224.34 crore for 66,891 beneficiaries.

WAKFS

Wakfs are permanent dedication of movable or immovable properties for purposes recognised by the Muslim Law as religious, pious or charitable. Better management of these institutions and fuller realisation of their objectives contribute to development and progress of the society. These relate to legislation to strengthen the effectiveness of the Wakf law ensuring early completion of survey of Wakf properties by the State Governments.

THE WAKF ACT, 1995

Administration of Central Legislation for Wakfs is the responsibility of the Ministry of Social Justice and Empowerment. In order to further strengthen the administration of Wakfs a fresh piece of legislation was passed by Parliament and enacted during 1995. This is known as the Wakf Act, 1995. With its enforcement in the country with effect from 1 January 1996 the earlier Central Laws on Wakf, namely, the Wakf Act, 1954 and the Wakf (Amendment) Act, 1984, stand repealed. The new Wakf Act, 1995 extends to the whole of the country except the State of Jammu and Kashmir. It envisages a decentralised set-up and also provides for democratization of the Wakf Boards. While *Mutawali* (Manager) of each individual Wakf retains his autonomy in the discharge of his responsibilities, general superintendence of all Wakfs in a state vests in the Wakf Board, set up by each State government which has to ensure that the Wakfs are properly maintained and administered and that their income is duly accounted to objectives for which such Wakfs were created. The Board has its own office and staff and its own funds composed of a statutory contribution released from different Wakfs. Overall supervision of the Wakf Boards vests in the concerned State government, which apart from appointing members of the Board and its Chief Executive Officer (Secretary), also receives the annual budget of the Board and appoints auditors for auditing its accounts. It also has powers to issue directions to the Board and, in certain cases, supersede it. The Central government has powers to coordinate the functions of the Central Wakf Council and the State Wakf Boards in so far as these relate to secular activities of the Wakfs. State governments of Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Meghalaya, Tamil Nadu, West Bengal, Kerala, Rajasthan, Tripura, Uttar Pradesh and the UT Administration of Dadra and Nagar Haveli, Lakshadweep, Andaman & Nicobar Islands and NCT of Delhi have since constituted new Wakf Boards under the provisions of the Wakf Act, 1995. State Governments of Madhya Pradesh, Rajasthan, Tamil Nadu, Uttar Pradesh, Kerala and UTs of Lakshadweep and NCT of Delhi have also established Wakf Tribunals under the new Act. The Central Government is advised on matters relating to administration of Wakfs and working of Wakf Boards in the country by a statutory body known as the Central Wakf Council, which is headed by the Union Minister in charge of the subject of Wakf. Central Wakf Council

has been re-constituted on 26 June 1997 under the provisions of the Wakf Act, 1995.

DURGAH KHWAJA SAHEB

The internationally famous Wakf, namely, Durgah of Hazrat Khwaja Moinuddin Chisti at Ajmer is governed by the Durgah Khwaja Saheb Act, 1955. This endowment is managed by a Centrally appointed committee known as Durgah Committee which is assisted by an officer known as Nazim. The Committee has its own funds and, among other things, looks after the welfare of devotees visiting the Durgah. It runs two dispensaries and has constructed a multistoried guest-house complex to provide accommodation at economical rates to pilgrims. Up to 1998, an amount of Rs 1.12 crore was received by way of donations, contributions and rent from Durgah Guest House. The Durgah Committee sanctioned a budget of Rs 2.01 crore towards expenditure on upkeep and maintenance of Durgah Sharif during 1999-2000.

MAULANA AZAD EDUCATION FOUNDATION

Maulana Azad Education Foundation has been set up as a society with the objective of promoting education amongst the educationally backward sections of the society, minorities in particular and others in general. The Government is giving grants-in-aid to the Foundation for building up a 'Corpus Fund' for financing its different activities. Up to 1997-98 the total corpus amounted to Rs 70.01 crore. The Foundation is being given annual recurring grant equivalent to the interest of Rs 30 crore from 1998-99. The Ministry released Rs 3.75 crore in 1998-99 and Rs 3.15 crore in 1999-2000. Up to 31 March 2000, the Foundation has sanctioned Rs 40.17 crore to 295 NGOs and released Rs 30.64 crore to 281 NGOs.

RESERVATION IN SERVICES

Article 16(4) of the Constitution permits reservation in favour of any backward class of citizens which in the opinion of the state is not adequately represented in services under the state. In pursuance of this provision, the Government has made reservation for scheduled castes (SCs) and scheduled tribes (STs) in services under its control in proportion to their population. Article 335 of the Constitution provides that the claims of the members of the scheduled castes (SCs) and scheduled tribes (STs) shall be taken into consideration, consistent with maintenance of efficiency of administration in making appointment to posts and services in connection with the affairs of the Union or of the State. Articles 341 and 342 of the Constitution define as to who would be the SCs and STs with respect to any State or Union Territory. The inter-state area restrictions have been imposed so that the people belonging to the specific community residing in a specific area which has been assessed to qualify for SCs and STs status only benefit from the facilities provided for them. The main objective for providing the reservation for SC/ST in civil posts and services of the Government is not just to give jobs to some persons belonging to these communities and thereby increase their representation in

the services (though that constituted an important, immediate aim) but to uplift these people socially and educationally and make some place for them in the society. In addition to the scheduled castes and scheduled tribes, there are certain other backward castes and communities which needed special attention. For this purpose reservation has been provided to these castes and communities (known as Other Backward Classes) in services and posts under the Government of India. In addition, reservation is also provided to the physically handicapped and ex-servicemen in certain categories of posts. The quantum of reservation to scheduled castes (SCs), scheduled tribes (STs) and other backward classes (OBCs) in direct recruitment on all-India basis by open competition is 15 per cent, 7.5 per cent and 27 per cent respectively. In direct recruitment on all-India basis otherwise than by open competition, the reservation is 16.2/3 per cent for SCs, 7.5 per cent for STs and 27 per cent for OBCs. Vacancy-based rosters earlier prescribed have been replaced by post-based rosters by an order dated 2 July 1997 consequent upon judgement of the Supreme Court in R.K. Sabharwal's case.

To facilitate adequate representation of SCs/STs and OBCs in services, certain relaxations and concessions are given. A few of these are as follows : (a) relaxation of five years in upper age-limit for SC/ST candidates; (b) relaxation of three years in upper age-limit for OBC candidates; (c) relaxation of qualification regarding experience in the case of direct recruitment wherever necessary for SC/ST candidates and (d) exemption from the payment of application fee for SC/ST candidates.

In order to continue reservation in promotion for SCs and STs which was to lapse on 15 November 1997, the Constitution was amended vide the Constitution (Seventy-seventh Amendment) Act, 1995 and a clause 4A was inserted under Article 16 (4) of the Constitution, which enabled the state to provide for reservation, in matters of promotion, in favour of the SCs and STs, which in the opinion of the state are not adequately represented in the Services under the state. Consequently instructions were issued on 13 August 1997 for continuing the reservation for them beyond 15 November 1997 till the reservation reaches the prescribed percentage for respective categories.

The scheme of reservation is also being followed by public-sector undertakings including nationalised public-sector banks. State Governments have also framed rules under the powers given to them by item 41 of the state list of the Seventh Schedule to the Constitution for reservation of posts for these classes, and have taken steps to increase their representation in state services. Reservation in State Government services, however, is under the exclusive jurisdiction of State Government. For ensuring implementation of reservation orders, liaison officers have been appointed for Scheduled Castes/Scheduled Tribes and Other Backward Classes in each Department under different Ministries/Departments. Annual statements are required to be submitted by recruiting authorities for scrutiny by Government. The representation of SCs/STs in Central Government services is given in table 10.1.

TABLE 10.1 : REPRESENTATION OF SCs/STs IN CENTRAL GOVERNMENT SERVICES

(As on 1 January 1998)

Group	Total	SCs	Percentage	STs	Percentage
A	63,466	6,608	10.41	2,047	3.23
B	1,05,679	12,510	11.84	2,868	2.71
C	21,35,640	3,48,309	16.31	1,28,776	6.03
D	9,98,672	2,14,784	21.51	69,168	6.93
(Excluding Safai Karamchari)					
Safai Karamchari	1,71,994	93,430	54.32	6,916	4.02
Total	33,03,457	5,82,211	17.62	2,02,859	6.14
(Excluding Safai Karamchari)					
Total	34,75,451	6,75,641	19.44	2,09,775	6.04
(Including Safai Karamchari)					

Note: Information in respect of five Central Ministries/Departments is not included.

WELFARE OF PERSONS WITH DISABILITIES

The Ministry of Social Justice & Empowerment is the nodal Ministry for all policies/issues relating to the welfare of Persons with Disabilities. As per an NSSO sample survey of 1991 in the field of visual, hearing, speech and locomotor disabilities, it was estimated that about 1.9 per cent of the population of the country were disabled. The prevalence of physical disability was 20 per thousand persons in rural areas and 16 per thousand persons in urban areas. As regards mental retardation for persons up to the age of 14, about 3 per cent suffer from delayed mental development. The number of leprosy-affected persons is estimated to be about 40 lakh of whom a fifth are children. The fresh cases of disability every year have been estimated to be 7.5 lakh. On an average 5 per cent of population is estimated to be suffering from some kind of disability.

A comprehensive law, namely, the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995, has been enacted and enforced in February 1996. The law deals with both prevention and promotional aspects of the rehabilitation such as education, employment and vocational training, creation of barrier-free environment, provision of rehabilitation services for persons with disabilities, institutional services and supportive social security measures like unemployment allowance and a grievance redressal machinery both at the Central and state level. An Expert Committee was constituted on 2 July 1999 to identify/review the posts in Groups 'A', 'B', 'C' and 'D' to be reserved for persons with disabilities in the Ministries/Departments and PSUs.

NATIONAL INSTITUTES

In consonance with the policy of providing a complete package of welfare services to the physically and mentally disabled individuals and groups and in order to effectively deal with the multi-dimensional problems of the disabled population, the following National Institutes/apex level Institutes have been set up in each major area of disability: (i) National Institute for the Visually Handicapped, Dehradun; (ii) National Institute for the Orthopaedically Handicapped, Calcutta; (iii) Ali Yavar Jung National Institute for the Hearing Handicapped, Mumbai; (iv) National Institute for the Mentally Handicapped, Secunderabad; (v) National Institute for Rehabilitation Training and Research, Cuttack; and (vi) Institute for Physically Handicapped, New Delhi.

The thrust areas of the National Institutes are manpower development, development of models of service delivery programmes for rehabilitation, reaching services to the unreached through outreach activities and research and development in the areas of bio-medical engineering, mental retardation, speech and hearing and visual impairedness.

The Artificial Limbs Manufacturing Corporation of India, Kanpur, registered under the Companies Act, has been functioning from 1976 to develop, manufacture and market aids and appliances for the orthopaedically and visually-handicapped persons.

The National Handicapped Finance and Development Corporation (NHFDC) incorporated on 24 January 1997 provides opportunities for skill development and loan assistance to the disabled persons to set-up self-employment ventures.

REHABILITATION COUNCIL OF INDIA

The Rehabilitation Council established on 6 May 1986 as a Registered Society under the Societies Registration Act, 1860, was given a statutory status through the Rehabilitation Council of India Act, 1992 which came into force with effect from 31 May 1993. The Council is responsible for regulating training policies and programmes for various categories of professionals in the area of disability. Its functions include : (i) Standardization of training courses at different levels, (ii) regularisation of standards of training in all the training institutions throughout the country, (iii) recognition of institutions/universities for their training courses within and outside the country on a reciprocal basis and (iv) maintenance of a Central Rehabilitation Register for professionals possessing recognised qualification in the area of rehabilitation.

A proposal to set up six Composite Regional Resource Centres in the country as outreach extension centres of the National Institutes has been approved. The centres will conduct training programmes to generate professionals in the field of rehabilitation as well as provide rehabilitation services to the disabled. Another proposal to set up four Regional Rehabilitation Centres for spinal injuries and other orthopaedic disabilities has been

approved. The Centres would provide facilities for basic management and follow up of the spinally injured so as to make the affected persons functionally independent. The Italian Government is also providing assistance to the Centres in the form of equipment.

It is proposed to set up a National Institute for Multiple Handicapped in Chennai, which will provide comprehensive rehabilitation services to people with multiple disabilities.

EMPLOYMENT OF THE HANDICAPPED

It is a Centrally-sponsored scheme. The basic objective of the scheme is to help the persons with disabilities in getting gainful employment either through special cells in normal employment exchanges or special employment exchanges for the persons with disabilities. The financial assistance from the Central Government is hundred per cent in the case of special cells and 80 per cent in the case of special employment exchanges.

WELFARE OF THE AGED

The Ministry of Social Justice and Empowerment has been implementing a Central scheme of assistance for the programmes relating to the aged from November 1992. Under the scheme, financial assistance is provided to voluntary organisations for establishing and maintaining of day-care centres, old-age homes, mobile medicare units as well as for supporting and strengthening non-institutional services for the aged. This scheme revised in 1998-99 is called 'An Integrated Programme for Older Persons'. Under the revised scheme, up to 90 per cent of the cost of the project will be provided by the Government of India and the remaining shall be borne by the organisation/institution concerned. However, in the case of schools, colleges and recognised youth organisations such as *Nehru Yuva Kendra Sangathan* (NYKS) and the National Service Scheme (NSS) undertaking programmes and services for Older Persons hundred per cent cost of the project shall be provided by the Government. In case of State government/municipal bodies undertaking/executing any activity directly the funding pattern will be 90:10 between the Government of India and the State government/local body. However, where an activity is taken up by Union Territory Administration hundred per cent of the cost shall be borne by the Government of India. Similarly, if the Ministry itself executes any part of the programme (monitoring and evaluation of the scheme, advocacy, awareness building, research, documentation, training, etc.) full cost shall be payable from budgetary allocations made for the programme.

Old-Age Homes : The Old-Age Home is a residential unit for at least 25 poor destitute aged persons of 60 years and above. Aged persons coming from lower-income groups and middle-income groups of society, in desperate need for shelter, can also be considered for admission in these Homes, subject to thorough inquiry and discretion of the voluntary organisations concerned. Under this programme, the physical and psychological well-being of the aged

inmates is taken care of by way of provision of part-time medical officer and trained social worker/counsel. Medicines up to a limited extent are also provided.

Day-Care Centres for the Aged : Assistance to voluntary organisations is given for maintenance of day-care centres for at least 50 persons in urban/slum/rural/tribal areas. The aim of this programme is to keep the aged integrated with their respective families and to supplement the activities of the family in looking after the needs of the aged. Both the well-to-do and the poor in the age-group of 60 years and above could benefit from the programme.

Mobile Medicare Services for the Aged : Under this programme, grant is provided to voluntary organisations which have experience and expertise in providing medicare services to the aged in rural/urban/slum areas.

Non-Institutional Services for the Aged : Under this programme, a social worker is appointed to provide for services to the aged like legal counselling, assistance for supplying pension, GPF, HRA, Income Tax, Bank Services, etc. The aged are also assisted towards medical examination of their eyes, for receiving spectacles, obtaining hearing aids and dentures, etc.

The scheme of assistance to *Panchayati Raj* institutions/voluntary organisations for construction of Old-Age Homes launched in 1996-97 aims at providing at least one Old-Age Home per district where no Government-aided Old-Age Home exists. The construction grant limit of Rs five lakh has been raised to Rs 30 lakh.

As a part of the ongoing schemes of the Ministry, grants-in-aid were provided to NGOs to establish 44 new Old Age Homes, 164 new Day Care Centres, 12 new Mobile Medicare Units and one new project for providing Non-Institutional Services to the Older Persons during 1999-2000. The Ministry is supporting 298 Old Age Homes, 425 Day Care Centres, 58 Mobile Medicare Units and three Projects of Non-Institutional Services for Older Persons.

NATIONAL YEAR OF OLDER PERSONS

2000 is being observed as the National Year of Older Persons. Population Ageing which was perceived until recently to be a concern of the industrialised countries only has become an active issue of the developing countries as well including India. The population of Older Persons 60+ in India ranks the fourth highest in the world and by the end of the present century, it will be second only to China. Today India is home to one out of every ten senior citizens of the world. The older population which was 56.7 million in 1991 is expected to grow to over 76 million by 2001 and 137 million by 2021.

WELFARE OF STREET CHILDREN

Surveys of street children (sponsored by the then Ministry of Welfare-

UNICEF 1992-93) in eight major cities have indicated that a large number of street children suffer destitution, neglect, abuse and exploitation due to circumstances beyond their control. The surveys have also shown that, due to a variety of reasons, basic urban services do not reach them in an effective and integrated manner. During 1992-93 a scheme was launched for the welfare of street children in order to provide integrated community-based non-institutional basic services. The scheme was revised in 1998-99. Under the revised programme known as "An Integrated Programme for Street Children", a wide range of initiatives relating to street children can be supported including those relating to shelter, nutrition, health care, sanitation and hygiene, safe drinking water, education, recreational facilities and protection against abuse and exploitation.

Voluntary organisations engaged in the welfare and development of street children are provided funds up to 90 per cent of the cost of each project by the Government of India and the remaining 10 per cent is met by the concerned voluntary organisation. The expenditure incurred since the inception of the scheme up to 1999-2000 is Rs 2,594.69 lakh.

INTEGRATED PROGRAMME FOR JUVENILE JUSTICE

During 1998-99 the scheme for Prevention and Control of Juvenile Social Mal-adjustment which the Ministry has been operating since 1986-87 was also revised with a view to strengthening the implementation of the Juvenile Justice Act 1986 in the country and bringing about a qualitative improvement in the services provided under the scheme to both neglected as well as delinquent children. The salient features of the revised scheme called 'A Programme for Juvenile Justice' are as follows : (i) Establishment of a National Advisory Board (NAB) on Juvenile justice to advise the Government on matters relating to the implementation of the Juvenile Justice Act 1986 in the country including the quality of infrastructure and the staff available under the Act. The Chairperson of the NAB is the Secretary, Ministry of Social Justice and Empowerment and it has representation from other Central Ministries, State Governments, Juvenile Welfare Boards, Juvenile Courts, Schools of Social Work, Law Schools and NGOs; (ii) Creation of a Juvenile Justice Fund; (iii) Establishment of a Secretariat for the National Advisory Board; (iv) Constitution of a Social Audit Panel (SAP) comprising of 5-6 eminent persons to report upon juvenile justice facilities in the country; (v) Appointment of observers to report upon implementation of the Act in different State/UTs; (vi) Institution of a Chair on Juvenile Justice at the Child and the Law centre of the National Law School of India University, Bangalore; (vii) Institution of awards for the best maintained juvenile justice institutions in each State and at the National level; (viii) Training, orientation and sensitization of judicial, administrative, police and NGO personnel responsible for implementation of the Juvenile Justice Act 1986; (ix) Provision of hundred per cent financial assistance to States/UTs/Voluntary Organisations to facilitate creation of infrastructure prescribed under the Act in hitherto uncovered districts of the country; (x) Financial assistance to bring about a

qualitative improvement in the existing infrastructure; (xi) Expansion of non-institutional services such as sponsorship, foster care, probation, etc., as alternates to institutional care; and (xii) Provision of scholarships to children being processed under the Act for excelling in academics or in extra curricular activities. The expenditure incurred since 1986-87, the inception of this programme up to 1999-2000 is Rs 56.84 crore.

ASSISTANCE TO VOLUNTARY ORGANISATIONS FOR SOCIAL DEFENCE SERVICES

Under this Scheme, assistance is provided for undertaking programmes which are not covered under the existing schemes of the Ministry. In particular the scheme provides for Pilot Projects in unchartered areas in which the Ministry may like to formulate independent programmes in due course. A number of programmes are being supported for rehabilitation of children of sex workers. Initiatives have also been taken to support projects for rehabilitation of widows and for providing counselling and support to traumatized children and women particularly those who have been victims of physical violence and sexual abuse. The budget allocation and expenditure incurred from 1992-93 to 1999-2000 has been Rs 739 lakh and Rs 532.31 lakh respectively.

PREVENTION OF ALCOHOLISM AND DRUG ABUSE

The Ministry has been implementing the Scheme for Prevention of Alcoholism and Substance (Drugs) Abuse since 1985-86. Under the Scheme, grant-in-aid to the extent of 90 per cent (95 per cent in the North-East States, J&K and Sikkim) of the expenditure is provided to the NGOs. The Ministry is assisting 350 voluntary organisations for maintaining 440 centres in the country. An amount of Rs 19 crore was spent in 1999-2000 and an allocation of Rs 22 crore has been made for the year 2000-2001.

ANIMAL WELFARE

The Ministry of Social Justice and Empowerment has been implementing various schemes for the welfare of sick, abandoned, stray and injured animals since 3 September 1998 after the subject 'Animal Welfare' was transferred to it by the Ministry of Environment and Forests.

The Animal Welfare Board of India was set up in 1962 in accordance with Section 4 of the Prevention of Cruelty to Animals Act, 1960. The Board keeps the law in force in India for the Prevention of Cruelty to Animals. The Board has been organising training camps on Animal Welfare from time to time.

Financial assistance is provided to voluntary organisations for construction of shelter houses. During 1999-2000 grant-in-aid was provided to NGOs to construct 52 shelter houses at an estimated cost of Rs 5.61 crore.

To make available emergency services to animals in distress grants-in-aid for Ambulance services to competent organisations working in the area of animal welfare is provided. During 1999-2000 grant-in-aid was provided to 57 NGOs at an estimated cost of Rs 2.25 crore.

The scheme for birth control and immunization of stray dogs has been designed to reduce the stray dogs problem *vis-a-vis* dog menace amongst the public in general. During 1999-2000 grants-in-aid was released to 34 NGOs at an estimated cost of Rs 0.75 crore.

WOMEN AND CHILD DEVELOPMENT

The development of women and children to their full potential constitutes an essential component in the country's total human resource development effort. The Department of Women and Child Development (DWCD) was set up in 1985 as a part of the Ministry of Human Resource Development to give the required impetus to the development of women and children. The Department in its nodal capacity formulates plans, policies and programmes and enacts/amends legislation and coordinates the efforts of both governmental and non-governmental organisations working to improve the lot of women and children in the country. The activities of the Department are carried out through four bureaux, the Bureau of Nutrition and Child Development, the Bureau of Child Welfare, the Bureau of Women's Development and the Bureau of Girl Child & Vigilance. The Department has under its control three organisations, *viz.*, National Institute of Public Cooperation and Child Development (NIPCCD), *Rashtriya Mahila Kosh* (RMK) and Central Social Welfare Board (CSWB). NIPCCD and RMK are societies registered under Societies Registration Act 1860. CSWB is a charitable company registered under Section 25 of the Indian Companies Act, 1956. These organisations are fully funded by the Government of India and they assist the Department in its functions including implementation of some programmes/schemes. The National Commission for Women (NCW) was constituted as a national apex statutory body in 1992 to investigate and examine the constitutional and legal safeguards for women and their effective implementation.

CHILD DEVELOPMENT

INTEGRATED CHILD DEVELOPMENT SERVICES

Following the adoption of National Policy for Children in 1974, the scheme of Integrated Child Development Services (ICDS) was initiated with 33 ICDS blocks/projects in 1975-76. The scheme provides an integrated package of services comprising supplementary nutrition, immunization, health check-up, referral services, pre-school non-formal education, and health and nutrition education for mothers. The target groups are children in the age group 0-6 years and expectant and nursing mothers. The ICDS continues to be the major governmental programme for early childhood survival and development intervention benefiting over 26 million children and around 5.5 million pregnant and nursing mothers. The scheme gradually expanded and until March 2000, 4,200 projects including 3,177 rural, 750 tribal and 273 urban slum projects are in operation. In 1999-2000, the Government approved the proposal to operationalise additional 390 projects with domestic resources and 461 new ICDS projects with World Bank assistance under the ICDS-III and ICDS-APER

projects in a phased manner during the next three years of Ninth Plan period. Of these additional 130 ICDS projects in nine States with domestic resources under general ICDS and 168 projects with world bank assistance were permitted to be operationalised during 1999-2000. In each ICDS Project, there are on an average 140 Child Development Centres called Anganwadi Centres (AWCs) — a focal point of delivery services under ICDS scheme. The grass-root level unit of ICDS is Anganwadi in rural, tribal or slum area. An Anganwadi is generally established in a rural/slum area having a population of about 1,000 while in the tribal areas it is set up for a population of about 700. One AWC is managed by one Anganwadi worker (AWW), a community based front line worker and one Anganwadi helper. The AWW monitors and promotes the growth of children, with the active participation of communities/mothers. At an Anganwadi the worker provides services to about 60 children below six years of age and 12 pregnant and nursing mothers. The Child Development Project Officer (CDPO) is in charge of an ICDS project who provides the link between ICDS functionaries and the Government administration. An ICDS Project has supervisors who support and guide AWWs in the implementation of ICDS programme and also provides on the job orientation to AWW in 17-25 AWCs depending upon nature of the project.

ICDS is a Centrally-sponsored scheme. While the Central Government bears the full cost of meeting the operational requirements, the State provides funds for meeting the cost of supplementary nutrition. During 1999-2000, Rs 881.46 crore was the Central Government's share for the implementation of the scheme excluding the cost of supplementary nutrition programme. The World Bank is providing a credit of US \$ 300 m for ICDS-III project in the States of Kerala, Tamil Nadu, Maharashtra, Rajasthan and Uttar Pradesh and for training programme throughout the country. A world bank credit of US \$ 75 m for the ICDS component of Andhra Pradesh Economic Restructuring Programme has also been agreed. Co-operative for Assistance and Relief Everywhere (CARE) and World Food Programme extends food aid for ICDS.

ICDS seeks to reduce both socio-economic and gender inequities. The Department has designed interventions for adolescent girls using ICDS infrastructure which focuses on school drop-outs, caters girls in the age group of 11-18 years to meet their various basic needs. It is operative in about 500 ICDS blocks benefiting about 0.35 million girls. *Balika Mandals* have been set up where the girls meet in groups.

ICDS TRAINING PROGRAMME — PROJECT UDISHA

Training is imparted to the Anganwadi workers, supervisors, Additional Child Development Project Officers (ACDPO) and Child Development Project Officers (CDPO) through the National Institute of Public Cooperation and Child Development (NIPCCD) through its Regional Centres at Lucknow, Guwahati and Bangalore, 18 Middle-Level Training Centres (MLTCs) and 300 Anganwadi Workers' Training Centres (AWTCs).

The Department of Women and Child Development undertook an in-

depth analysis and evaluation of the ICDS Training Programme. Based on this evaluation, the Department formulated the ICDS Training Programme - Project UDISHA which *inter alia* envisages the upward revision of financial norms, integration and coordination of training of ICDS functionaries and revision of training syllabus.

The World Bank has also agreed to provide financial assistance of the order of Rs 600.55 crore for implementation of a larger programme of ICDS during a period of five years. The National Training Component will be part of the overall World Bank Assisted Women & Child Development project which will be called : ICDS Training Programme - Project UDISHA. The existing UNICEF financial and technical collaboration for the programme will also continue.

The Schemes of Early Childhood Education (ECE) and *Balwadi* Nutrition Programme (BNP) are being implemented in the areas not covered by ICDS centres. The ECE Scheme is run by voluntary organisations in Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal providing pre-school education to children in the age-group of 3-6 years. During the year 1999-2000, grant-in-aid was sanctioned for running 1,200 ECE centres covering approximately one lakh children. The BNP Scheme is being implemented by Central Social Welfare Board, *Bharatiya Adimjati Sevak Sangh*, *Harijan Sevak Sangh*, Indian Council for Child Welfare and Kasturba Gandhi National Memorial Trust. The scheme provides for supplementary nutrition for children in the age group of 3-5 years. During 1999-2000 grants were sanctioned for running 672 *Balwadis* covering approximately 27,000 children. There are 12,470 creches run by the Central Social Welfare Board, Indian Council of Child Welfare and *Bharatiya Adimjati Sevak Sangh* through voluntary organisations with financial assistance from the Department, for the children of poor working/ailing mothers providing day-care services, supplementary nutrition, health care, recreation, etc. The National Creche Fund was set up in March 1994 with a corpus fund of Rs 19.90 crore to meet the additional demand of creches. Up to 31 March 2000, 2,455 creches were sanctioned from the fund. Thus, presently there are 14,925 creches providing day-care service to over 3.73 lakh children.

AWARDS

The National Awards for Child Welfare were instituted in 1979, the International Year of the Child, to give recognition to voluntary action for the cause of child welfare. The awards carry a cash prize of Rs two lakh and a citation for each institution and Rs 50,000 and a citation for each individual.

The Rajiv Gandhi Manav Seva Award was instituted in 1994 to honour an individual who makes outstanding contribution towards service for children. The award carries a cash prize of Rs one lakh, a silver plaque and citation.

National Bravery Awards were instituted by the Government of India

in 1957 for acts of bravery and meritorious acts/services performed by children in situations of emergency. The programme is implemented by the Indian Council for Child Welfare (ICCW) with financial assistance from the Government. The awards are given by the Prime Minister every year on the eve of Republic Day.

The National Child Award for Exceptional Achievement was instituted in 1996 to be awarded to children between the age of four to 15 years who have shown an exceptional achievement in any field including academics, arts, culture and sports, etc. There is one Gold Medal and 32 Silver Medals (one for each State/UT). The Gold Medal carries a cash prize of Rs 10,000 and a certificate. The Silver Medal carries a cash prize of Rs 5,000 and a certificate.

ROLE OF UNICEF

The Department of Women and Child Development is the nodal agency for UNICEF-related matters. India has been associated actively with UNICEF since 1949 and is now in the fifth decade of cooperation with UNICEF for the welfare and development of children and women. The cooperation between Government of India and UNICEF is executed through the Master Plan of Operations which has a planning cycle of five years. The Plan for 1999-2000 was signed between the Government of India and UNICEF on 3 May 1999. The total allocation for the programme is US \$ 120 million from General Resources and US \$ 180 million from Supplementary Funds.

SAARC ACTIVITIES

An annual meeting of SAARC Technical Committee on health, population and child welfare activities was held in Colombo during 12-14 August 1999. A Country Report on Situation Analysis of the State of Children prepared by the Department of Women and Child Development was presented to the Committee during the meeting.

UN CONVENTION ON RIGHTS OF CHILD

India ratified the UN Convention on the Rights of the Child (CRC) in 1992 and submitted its initial Report in 1997. India's written response to its initial Report has been submitted to the UN Committee on CRC on 15 December 1999. The Department of Women and Child Development has constituted a 15 member National Coordinating Mechanism under the Chairpersonship of Secretary for monitoring the implementation of the Convention on the Rights of the Child and for overseeing all other activities directly connected to its implementation.

NATIONAL COMMISSION FOR CHILDREN

The Department of Women and Child Development is in the process of setting up the National Commission for Children. The Parliamentary Standing Committee attached to the Ministry of HRD in its two meetings held in 1998 approved the proposal, in principle. Based on the recommendations of the

Committee, a draft note was accordingly prepared and circulated to all State Governments/UT Administrations and concerned Central Ministries/Departments. Most of the States, UTs and Central Ministries/Departments have agreed, in general, to the proposal. In a meeting held on 29 June 1999 it was agreed, to set up a National Commission for Children on the lines of the National Human Rights Commission. The draft Bill is under consideration of the Government.

WOMEN'S DEVELOPMENT

Women who number 407.1 million according to 1991 census, represent 48.1 per cent of country's population of 846.3 million. The development of women has always been the central focus in developmental planning since Independence. Though there have been various shifts in policy approaches in the last 50 years from the concept of "welfare" in the 70s, to "development" in the 80s, and now to "empowerment in the 90s, the Department of Women and Child Development since its inception has been implementing special programmes designed to improve the socio-economic status of women. The major programmes that complement and supplement the other developmental and welfare programmes, particularly in the sectors of health, education, rural and urban development, etc., implemented by the Department, and initiatives undertaken in the area of women's empowerment are given below.

WELFARE AND SUPPORT SERVICES

The scheme of Hostels for Working Women seeks to provide reasonable rented and safe accommodation to working women belonging to low-income groups who migrate to cities for employment. In some hostels, day-care centres for children of these women are also attached. During 1999-2000, 15 additional hostels were sanctioned to provide accommodation to 1,246 working women. This brought the total number of hostels to over 841, benefiting over 59,500 working women.

The Government of India launched a programme in 1969 in the Central Sector called short-stay homes for women and girls for the protection and rehabilitation of those women and girls who are facing family problems, mental strains, social ostracism and exploitation and who need shelter while they adjust and cope with their personal situations. The scheme envisages the provision of services/facilities, viz., medical care, psychiatric treatment, counselling, occupational therapy, education, vocational and creational activities and social facilities for adjustment.

EMPLOYMENT AND TRAINING

The Programme of Support to Training-cum-Employment for Women (STEP) was launched in 1987 to strengthen and improve the skills for employment opportunities for women below poverty-line, in traditional sectors of agriculture, small animal husbandry, dairying, fisheries, handlooms, handicrafts, cottage and village industries, sericulture, social forestry and waste land development where women are employed on a large scale. The focus is mainly on

marginalised and assetless women, female-headed households and women of other dispossessed groups. Since the inception of the programme, 4.48 lakh women have been benefitted.

The schemes of Training-cum-Employment Production Centres-the NORAD - assisted training programme for women-extends financial assistance to public-sector undertakings/corporations/autonomous bodies/voluntary organisations to train women in traditional and non-traditional trades to equip them for employment on a sustainable basis. Priority is given for training in modern and upcoming trades like electronics, electrical, computer programming, handloom, garment-making, weaving, spinning, canteen management, fashion technology and beauty culture, office management, etc. Since the inception of the programme in 1983, about 2.49 lakh women have been trained providing sustained employment.

The schemes of Condensed Courses of Education and Vocational Training programme for needy women in rural, hilly and tribal areas were started in 1958 and 1975 respectively. These schemes were revised and the revised scheme is being implemented from 1990-91. Under the scheme of Condensed Courses, voluntary organisations are given grants to conduct courses of two years duration to enable women of the age of 15 plus to pass matric/secondary, middle and primary level examinations. Under the vocational training programme, grants are provided to give vocations such as dress designing, computer courses, typesetting, batik, handloom weaving, nursery teachers training, stenography, etc. A total of 591 courses were sanctioned and an amount of Rs 720.47 lakh has been sanctioned during 1999-2000.

SOCIO-ECONOMIC PROGRAMME

Under the Socio-Economic Programme (SEP), initiated in 1958, voluntary organisations are given financial assistance to take up a wide variety of income generating activities which include the production of industrial components in ancillary units, handlooms, handicrafts, agro-based activities such as animal husbandry, sericulture and fisheries, and self-employment ventures like vegetable or fish vending, etc.

AWARENESS GENERATION PROGRAMME

In order to raise the general awareness of rural and poor women, the Awareness Generation Programme (AGP) was introduced by the Central Social Welfare Board in 1986-87. The broad aim of this programme is to create awareness among rural and poor women on various social issues so that they can realise their potential in the family and society. Funds are provided to NGOs up to an amount of Rs 20,000 at the rate of Rs 2,000 per camp. The total amount sanctioned up to 31 March 2000 is Rs 198.27 lakh for 1,960 camps.

SWA-SHAKTI PROJECT

The Swa-Shakti Project (earlier known as Rural Women's Development and Empowerment Project) was sanctioned on 16 October 1998 as a Centrally-

sponsored project for a period of five years with an estimated outlay of Rs 186.21 crore. In addition an amount of Rs five crore has been provided for setting up of Revolving Fund in the project states, for giving interest bearing loans to *Swa-Shakti* Groups primarily during their formative stage. The objectives of the project are : (i) Establishment of self-reliant women's self-help-groups (SHGs) between 7,400 and 12,000 having 15-20 members each, which will improve the quality of their lives, through greater access to, and control over the resources; (ii) Sensitizing and strengthening the institutional capacity of support agencies to proactively address women's needs; (iii) Developing linkages between SHGs and lending institutions to ensure women's continued access to credit facilities for income generation activities; (iv) Enhancing women's access to resources for better quality of life, including those for drudgery reduction and time-saving devices; and (v) Increased control of women, particularly poor women, over income and spending, through their involvement in income generation activities.

At the Central level, the project is implemented through Central Project Support Unit in the Department of Women and Child Development. The project will cover the parts of six states viz., Bihar, Gujarat, Haryana, Karnataka, Madhya Pradesh and Uttar Pradesh. In these areas, the implementing agencies, namely the Women's Development Corporation of Bihar, Haryana and Karnataka; Gujarat Women's Economic Development Corporation in Gujarat, *Mahila Arthik Vikas Nigam* in Madhya Pradesh and *Mahila Kalyan Nigam* in Uttar Pradesh, actively associate NGOs in the implementation tasks. Funds needed by the implementing agencies are being provided by the Central Government in the form of grants-in-aid. The project has made satisfactory progress. Till 31 March 2000, 1,925 women's Self-Help-Groups have been formed.

INDIRA MAHILA YOJANA

The *Indira Mahila Yojana* (IMY) which aims at organising women at the grassroot level to facilitate their participation in decision-making and their empowerment was launched on 20 August 1995, to start with, in 200 ICDS blocks. The strength of the scheme lies in the strength of group dynamics. The objectives of the scheme are : convergence of the schemes of every sectoral department; awareness-generation among the women from rural areas and urban slums; and economic empowerment of women. So far more than 40,000 women's Self-Help Groups have been formed under the programme.

WOMEN'S EMPOWERMENT PROJECT

The Training for Women's Empowerment Project is being implemented on a pilot basis in 21 *Indira Mahila Yojana* blocks of 14 districts of Maharashtra, with assistance of UNFPA. The focus is on piloting training strategy under IMY. So far, the training of trainers has been completed, followed by the animator training programmes. These camps in each of the clusters would be organised soon. In order to facilitate women's access to information, block level information centres (*Mahila Mahiti Kendras*) have been set up.

BALIKA SAMRIDDHI YOJANA

The *Balika Samriddhi Yojana* (BSY) is a scheme to raise the status of the girl child. The scheme was launched with effect from 2 October 1997. Under this, the mother of a girl child born on or after 15 August 1997 in a family living below the poverty-line is given a grant of Rs 500. The benefits of means of delivery have been redesigned. The post-delivery grant of Rs 500 per girl child (up to two girls in a family living below the poverty-line) will be deposited in the name of the girl child with the nearest bank/post office. In the same account will be deposited annual scholarships ranging from Rs 300 for class I to Rs 1,000 for Class X when the girl starts going to school. The matured value of the deposits (along with interest) will be repayable to the girl on her attaining the age of 18 years and having remained unmarried till then. In the event of her marriage before 18 years of age, she will forgo the benefit of amount of annual scholarships and interest accrued thereon but not the post-birth grant of Rs 500 and the interest thereon. The programme of recast BSY with these revisions has been put into action during 1999-2000.

AWARDS

Five awards named after eminent women in Indian history, i.e., Devi Ahilya Bai Holkar, Kannagi, Mata Jijabai, Rani Gaidinliu Zeliang and Rani Lakshmi Bai, have been instituted by the Department during the year. The awards will be given to Indian women for their contribution in the field of social development. Each award carries a cash prize of Rs one lakh and a citation.

PLAN OF ACTION TO COMBAT SEXUAL EXPLOITATION OF WOMEN AND CHILDREN

The Supreme Court in a case passed an order on 9 July 1997, directing *inter-alia* the constituting of a committee to make an in-depth study of the problem of prostitution, child prostitutes and children of prostitutes and to evolve suitable schemes for their rescue and rehabilitation.

Accordingly the Committee on Prostitution, Child Prostitutes and Children of Prostitutes of commercial sexual exploitation and trafficking of women and children and children of the women victims was constituted to evolve such schemes as are appropriate and consistent with the directions given by the Supreme Court. A draft Plan of Action prepared by the Committee has been approved in a meeting chaired by the Hon'ble Prime Minister.

The Plan of Action would guide the actions of the Ministries/Departments of the Central Government, NGOs, the public and private sectors and other sections of society. The Plan of Action consists of action points grouped under prevention, trafficking, awareness generation and social mobilisation, health care services, education and childcare, housing, shelter and civic amenities, economic empowerment, legal reforms and law enforcement, rescue and rehabilitation, institutional machinery and methodology. The report of the

Committee and the Plan of Action to combat trafficking and commercial sexual exploitation of women and children has been sent to the concerned Central Ministries/Departments and State governments/UT administrations for implementation of the action points.

RESEARCH 'AND PUBLICATION

During 1999-2000 the Department has sponsored 123 research studies on various issues concerning Women & Child. The Department has also brought out a publication, 'Schemes for Assistance - A Hand Book', which gives details of various programmes being implemented by the Department.

NATIONAL COMMISSION FOR WOMEN

The National Commission for Women was set up on 31 January 1992 in pursuance of the National Commission for Women Act 1990. The functions assigned to the Commission are wide and varied covering almost all facets of issues relating to safeguarding women's rights and promotion. The Commission has a Chairman, five members and a Member Secretary, all nominated by the Central Government. The Commission continues to pursue its mandated activities, namely, review of legislation, interventions in specific individual complaints of atrocities and denial of rights. Remedial action to safeguard the interest of women is suggested to the appropriate authorities. The Commission has accorded highest priority to securing speedy justice to women. Towards this end, the Commission is organising *Parivarik Mahila Lok Adalats*, offering counselling in family disputes and conducting training programmes for creating legal awareness among women.

RASHTRIYA MAHILA KOSH

The National Credit Fund for Women (*Rashtriya Mahila Kosh*) was set up on 30 March 1993 with corpus fund of Rs 31 crore with the major objective of meeting the credit needs of poor women, particularly in the informal sector. The RMK set up under the Societies Registration Act, 1860 is managed by a governing board comprising 16 members. The Minister of State for Women and Child Development is the Chairperson of the Kosh. The RMK has sanctioned, up to 31 March 2000, loans amounting to Rs 82.29 crore to benefit 3,60,383 women through 712 NGOs. Besides extending micro-finance, RMK has also launched a scheme to support the formation and stabilization of women's Self Help Groups (SHGs). Under this scheme RMK gives an interest-free loan of Rs one lakh for formation and stabilization of 25 SHGs. The loan is convertible into grant on fulfilment of certain conditions. As on 31 May 2000 an amount of Rs 311.78 lakh was sanctioned to 327 NGOs for formation of SHGs.

NATIONAL INSTITUTE OF PUBLIC COOPERATION AND CHILD DEVELOPMENT

The National Institute of Public Cooperation and Child Development (NIPCCD), New Delhi, an autonomous organisation functions under the aegis of the

Department of Women and Child Development. The objectives of the Institute are to develop and promote voluntary action in social development; take a comprehensive view of child development and develop measures for coordination of Governmental and voluntary action in social development; and evolve framework and perspective for organising children's programmes through governmental and voluntary efforts.

In order to achieve the above objectives, the Institute conducts research and evaluation studies; organises training programmes, seminars, workshops, conferences; and provides documentation and information services in the fields of public cooperation and Child development. The Institute is the apex body for training of functionaries of the ICDS programme. The Institute has three Regional Centres at Bangalore, Guwahati and Lucknow.

CENTRAL SOCIAL WELFARE BOARD

The Central Social Welfare Board (CSWB) was set up in 1953 with the objective of promoting social welfare activities and implementing welfare programmes for women, children and the handicapped through voluntary organisations. It was the first organisation in post-Independence era to achieve people's participation for implementation of welfare programmes for women and children through non-governmental organisations (NGOs). Presently more than 18,000 NGOs are receiving financial assistance and guidance from the Board. The programmes implemented by the Board include: socio-economic programme for needy/destitute women, condensed courses of education and vocational training courses for women and girls, awareness generation projects for rural and poor women, family counselling centres/voluntary action bureau, holiday camps for children, welfare extension projects in border areas and *balwadis*, creches and hostels for working women, etc.

NUTRITION

The Food and Nutrition Board (FNB) was transferred to the Department of Women and Child Development on 1 April 1993 in pursuance of the National Nutrition Policy. As a follow up of National Nutrition Policy, a National Plan of Action identifying the role of 14 concerned sectors of the Government was formulated and released in 1995. A Task Force on Micronutrients (vitamin A and iron) identified strategies for prevention and control of micronutrient deficiencies in 1995-96. Disaggregated data on nutrition situation of the people collected from 187 districts in the country during 1995-96 was released in 1998. A Nutrition Surveillance model has been developed in Andhra Pradesh utilising the ICDS infrastructure of the State Government. The block level mapping of nutritional status of pre-school children from ICDS data in Orissa has set an example to all the States/UTs to undertake nutrition monitoring, mapping and surveillance with a view to reduce malnutrition levels.

The FNB has four regional offices in Delhi, Mumbai, Calcutta and Chennai and 43 Community Food and Nutrition Extension Units in 27 States/UTs.

INFORMATION AND MASS EDUCATION

Concerted efforts are being made to disseminate information about issues relating to the Development of Women and Children through all available modes of communication to target groups and community in general.

Outdoor publicity activities are undertaken to inform, educate and motivate people for bringing about attitudinal changes to achieve social development goals. Specific objectives include the mobilization of public opinion on issues pertaining to child labour, girl child, holistic development of children, empowerment of women, early child development, nutrition, equal status for women and social evils like child marriage, dowry, sexual abuse of girl child, exploitation of women and children, etc.

PENSION AND PENSIONERS' WELFARE

The Department of Pension and Pensioners' Welfare is the nodal agency of the Government of India for formulation of a general policy on pension and other retirement benefits, as also for redressal of grievances on retirement benefits. A number of steps have been taken in the last few years for streamlining the pension administration system. In pursuance of the recommendation of the Fifth Central Pay Commission the rates of pension, family pension, etc., have been revised as under:

(i) Minimum pension/family pension has been fixed at Rs 1,275 per month subject to condition that the actual amount of pension/family pension should not be less than 50 per cent and 30 per cent respectively of the minimum of revised scale of pay of the post from which the pensioner has retired; (ii) The commutation may be allowed up to 40 per cent of pension; (iii) The ceiling of gratuity has been raised to Rs 3.5 lakh; (iv) The definition of the family has been broadened to include parents, for entitlement to family pension with effect from 1 January 1998; (v) The ceiling of amount payable under the deposit linked Insurance Scheme has been enhanced from Rs 30,000 to Rs 60,000; (vi) A fixed medical allowance of Rs 100 per month has been sanctioned to all Central Government Pensioners who are residing in areas not covered by the Central Government Health Scheme; (vii) CPF retirees of the period from 18 November 1960 to 31 December 1985 who have completed 20 years of service prior to superannuation have been allowed ex-gratia at the rate of Rs 600 per month with effect from 1 November 1997; (viii) In pursuance of observations made by the Parliamentary Standing Committee of Ministry of Home Affairs in para 61 of its 44th Report, detailed instructions have been issued for timely payment of pension and retirement dues to the retiring employees of Union Government. The O.M. also makes a provision for fixing responsibility for recovery of penal interest paid on delayed amount of gratuity to the retiring employees from the salary of concerned dealing official/supervisor and Head of Office in proportion; (ix) Employed family pensioners have been allowed Dearness Relief (D.R.) on their family pension with effect from 18 July 1997. In the case of re-employed pensioners D.R. on pension is payable only if pay on re-employment has been fixed at the

minimum of the scale of re-employed post, and (x) Central Government servants who had drawn lump sum payment on absorption in PSUs/ Autonomous Bodies are entitled to restoration of 1/3rd commuted portion of pension duly revised as per Supreme Court judgement dated 15 December 1995. D.R. was also allowed on this restored and consolidated amount of pension. As a result of Supreme Court judgement dated 26 April 2000 the D.R. has now been allowed on full pension instead of 1/3rd commuted portion of pension.

11 Mass Communication

IN a country like ours, mass communication plays a vital role in creating people's awareness about national policies and programmes by providing information and education, besides healthy entertainment. It helps people to be active partners in the nation-building endeavour. The Ministry of Information and Broadcasting is responsible for development and regulations of information, broadcasting and film sectors in the country. The broadcasting sector consists of Prasar Bharati formed by an Act of 1997 by subsuming Doordarshan and All India Radio under it. In addition, the broadcasting sector has about hundred private channels and cable network all over the country. The information sector includes the print media which is regulated by Press Council of India, in addition to the following media units of the Government : Press Information Bureau, Directorate of Advertising and Visual Publicity, Publications Division, Directorate of Field Publicity, Song and Drama Division, Photo Division and the Research, Reference and Training Division. Film making is in the non-government sector. The Government presence in this sector consists of Films Division, Directorate of Film Festivals, National Film Development Corporation, the Central Board of Film Certification, Film Archives of India and Children's Film Society. The Government has set up two film institutes, one at Pune and the other at Calcutta.

The information and broadcasting sector has been undergoing major changes largely due to technological development during the last two decades. In the 1980s, Doordarshan started using INSAT for nation-wide transmission of its channels and a huge network of more than 1,000 terrestrial transmitters has been created all over the country. In the nineties, private channels and cable network came to cover many parts of the country. Use of computers has been revolutionising information collection and dissemination.

Convergence is yet another technological revolution profoundly influencing the media scenario : convergence is coming about in various branches of entertainment like film, TV and music industry. All of these use computers, CDs, audio/video tapes. The same satellite and optic fibre is being used as infrastructure transmitting information whether for tele-communication or for computers or for broadcasting. At the receiving end the computer is being used as a tool not only for information processing, but also for receiving information and broadcast programmes. The Government has been trying to work out the details of Convergence Law, which will address the problems of development and regulations of the three related sectors, namely, broadcasting, telecommunication and information technology in a unified manner.

More than 100 FM radio stations have been approved for being set up and operated by private parties. The Government has liberalized uplinking

policy for TV channels in the country. The Cable Network Act has been amended with the objectives of preventing the cable networks from showing pirated movies, prohibiting advertisements for liquor, tobacco and infant milk substitutes and for ensuring that the cable network show at least three Doordarshan channels. The Government has also decided to allow Direct to Home (DTH) TV, with certain conditions.

ELECTRONIC MEDIA

AKASHVANI

Broadcasting started in India in 1927 with two privately-owned transmitters at Bombay and Calcutta. The Government took over the transmitters in 1930 and started operating them under the name of Indian Broadcasting Service. It was changed to All India Radio (AIR) in 1936 and later came to be known as Akashvani from 1957. AIR is serving as an effective medium to inform and educate people besides providing healthy entertainment.

NETWORK

At the time of Independence there were six radio stations. All India Radio presently has 199 radio stations and 313 transmitters. These include 142 medium-wave, 55 short-wave and 116 FM transmitters and provide radio coverage to a population of 98.8 per cent spread over 90 per cent area of the country.

MUSIC

Music constitutes 40 per cent of the total programmes broadcast over AIR comprising classical, light, folk, film and music in the regional languages. National Programme of Music (Hindustani and Karnatic) is the prestigious programme broadcast every Saturday and Sunday. This programme is broadcast live from the four metros. Akashvani Sangeet Sammelan - an annual affair is another musical treat to serious classical music listeners and lovers. Concerts of both Karnatic and Hindustani were featured at 23 different places and the recordings were broadcast for over a month. AIR Music competitions is another regular feature towards searching new talents amongst the youth. The competitions are held in categories of Hindustani/Karnatic and light music. Forty new talents were introduced in all categories during 1999.

VIVIDH BHARATI AND COMMERCIAL BROADCASTING SERVICE

Commercials were introduced on All India Radio from 1 November 1967 on Vividh Bharati. Now 110 Primary Channel Stations, 31 Vividh Bharati centres, 75 Local Radio Stations and four FM Metro channels are taking Commercials. Commercials are also allowed over National Channel, New Delhi; External Services Division and the North-Eastern Service, Shillong.

Vividh Bharati Service provides entertainment for 15 hours a day from 31 CBS centres and four short-wave transmitters at Mumbai, Chennai, Delhi and Guwahati in synchronised manner. The Primary Channel of All India

Radio popularly known as the programme channel was opened for sponsored programmes in spoken word category in 2000. Earlier sponsored programmes based on film music only were allowed on primary channels. With the establishment and growing demand of local Radio Stations, lately sponsored programmes based on development themes were also allowed on local Radio Stations. Lately, production of commercial spots for different government departments and private parties at AIR has also been allowed. Earlier, only studio facility was available for recording purpose. General Elections, 1999 were also marketed by All India Radio extensively earning substantial revenue.

All India Radio made yet another achievement in August 1999 by opening a joint venture in production and broadcast of educational programmes when AIR and Indira Gandhi National Open University started production and broadcast of interactive educational programmes.

DRAMA

Eighty-five stations of AIR broadcast plays in 19 languages. Drama adaptations of famous novels, short stories and stage plays are also broadcast. Besides original plays, a large number of stations regularly broadcast family plays focusing on eradication of various social evils. The National Programme in Hindi is broadcast on every fourth Thursday of the month and its regional versions are broadcast from the station concerned. Special model plays of 30 minutes duration are produced at the Central Drama Unit at Delhi, which are broadcast by 33 stations of AIR in a chain of six months. All India Competition for Radio Playwrights is being organised in 19 languages. All the prize-winning entries are translated in Hindi and then circulated to all stations for further translation and production in regional languages.

NEWS SERVICES DIVISION

The News Services Division (NSD) of All India Radio disseminates news and comments to listeners in India and abroad. The history of news broadcasting in India is much older than that of All India Radio. The first news bulletin went on the air from the Bombay station on 23 July 1927 under a private company, the Indian Broadcasting Company. The News Wing of All India Radio came into existence ten years later in August 1937.

From 27 bulletins in 1939-40, AIR now puts out 314 bulletins daily with a total duration of 39 hours and 29 minutes. Out of these, 88 bulletins are broadcast in the Home Services from Delhi with a duration of 12 hours and 05 minutes, while 42 Regional News Units (RNUs) originate 137 news bulletins daily with a duration of 18 hours and 01 minute. In the External Services, AIR broadcasts 65 bulletins for 8 hours and 59 minutes in 24 languages (Indian and foreign). The News Services Division has been putting out news headlines bulletins on the FM Channel since 28 May 1995. These are now available round-the-clock. AIR News on phone was introduced on 25 February 1998. The service provides the latest news highlights in Hindi

and English on phone on dialing the specified numbers. AIR is now available on the Internet.

AIR broadcasts special bulletins such as sports news, slow-speed bulletins and youth bulletins. Two youth bulletins are broadcast from Delhi in English and Hindi. AIR, Calcutta also broadcasts two youth bulletins in Bengali. During the Haj period, a five-minute Haj bulletin is aired from Delhi daily for the benefit of the pilgrims. 'Comments from the Press' are broadcast every day. In addition, NSD puts out a number of news-based programmes and commentaries in English and Hindi. During Parliament Sessions, commentaries in Hindi and English reviewing the day's proceedings in both Houses, are broadcast. Similarly, the RNUs put out reviews of the proceedings of their respective State Legislatures, when they are in session.

Newsreels were started on 10 December 1955 both in English (Radio Newsreel) and Hindi (*Samachar Darshan*) from Delhi. Regional News Units also put out Radio Newsreels in the respective regional languages.

The bulk of AIR news comes from its own correspondents spread all over the country. It has 90 regular correspondents in India and seven abroad at Colombo, Dhaka, Dubai, Hongkong, Washington, Kathmandu and Brussels. Apart from this, AIR has 246 part-time correspondents based at important district headquarters. AIR subscribes to the news agencies - UNI, PTI and their corresponding Hindi services - *Univarta* and *Bhasha*, and ANI to supplement its news sources. Other sources of news are the monitored reports from Monitoring Units (English and Hindi) attached to the General News Room and the Central Monitoring Services, which monitor the bulletins of major broadcasting organisations of the world.

EXTERNAL SERVICES DIVISION

The External Services Division (ESD) of All India Radio rank high among the External Radio Network in the World both in reach and range covering about 100 countries in 26 languages, 16 of them foreign and 10 Indian, with an enormous programme output of about 70 hours 45 mts. Over six decades All India Radio has emerged as a credible voice of the nation projecting an image of a modern, vibrant and resurgent India.

The languages in which AIR reaches its foreign audience are : Arabic, Baluchi, Burmese, Chinese, Dari, French, Indonesian, Nepali, Persian, Pushtu, Russian, Sinhala, Swahili, Thai, Tibetan and English. The Indian languages are Hindi, Tamil, Telugu, Bengali, Gujarati, Punjabi, Sindhi, Urdu, Saraiki and Malayalam.

During the year 1999-2000 extensive coverage was given to all conferences, seminars, symposia and festivals of films and trade of National and International importance in the form of commentaries, Radio reports and interviews besides, the visits of foreign dignitaries to India and of Indian dignitaries abroad. Wide publicity was given to Indian Forces' spectacular success in Kargil during the period May-July 1999. Commentaries and Press Reviews covered the day-to-day developments on the front during the operation. Urdu,

Sindhi and Punjabi services were specially geared to counter false and baseless propaganda launched by the Pakistan media.

English and Hindi services were geared to mount wide publicity for the new economic policy of liberalisation giving the details of various schemes and incentives for the new investment climate in India. A one-hour Malayalam service was introduced for the Gulf region in November 1999. External Services Division's transmission directed to SAARC countries, West Asia, Gulf and South East Asian countries continues to carry the 9 PM National bulletin in English, originally meant for Home Services.

External Services Division continues to supply recordings of music, spoken word and other programmes to about hundred countries and foreign broadcasting organisations, under the Programme Exchange scheme. There is a plan to work out 12 hrs of programme (English and Hindi) for feeding to the Internet for the benefit of the listeners in the USA and Canada.

NATIONAL CHANNEL

The National Channel was inaugurated on 18 May 1988 and is located at the Jawaharlal Nehru Stadium, New Delhi. Presently, it works as a night service covering over 76 per cent of the population of the country and provides a judicious blend of information and entertainment. Hourly news bulletins, alternately in Hindi and English, are broadcast from National Channel throughout the night. Whenever the Parliament is in session, National Channel broadcasts recordings of the question hour. *Sahargahi*, a special early morning programme is broadcast from the National Channel in the holy month of *Ramzan*. Having the whole of India as its zone, it draws the best available talent in the country. The programme complexion of the Channel has been designed to make it representative of the cultural mosaic and ethos of the nation as a whole. Some of the recent programmes added to the channel are: (a) Dramatised Short Stories: The channel broadcasts fortnightly short stories from regional languages; (b) *Basti Basti—Nagar Nagar*: To familiarise the people with various tourist destinations all over the country is broadcast fortnightly; (c) Hello Doctor: A monthly live phone-in-programme with medical experts answer listeners' queries on health and disease related matters and (d) *Sarhad*: A weekly programme started at the time of Kargil conflict, is devoted to the messages received from and for the armed forces personnel.

CENTRAL MONITORING SERVICE

The Central Monitoring Service (CMS) monitors news and news-based programmes of foreign radio and television networks. It also feeds the Newsrooms of AIR and Doordarshan with news flashes. During the year, the CMS on an average monitored about 36 broadcasts and 31 telecasts from eight radio and four television networks every day in seven languages including one foreign language. The organisation brought out a report everyday containing all the material monitored on that day. Besides, the CMS brought out two weekly reports, a weekly analytical report giving an analysis of the

important news of the week and a weekly special report on Kashmir based on the anti-India propaganda of Pakistan's radio and television networks on the Kashmir issue. The CMS has two field units—one at Jammu and the other in Calcutta.

TRANSCRIPTION AND PROGRAMME EXCHANGE SERVICE

Transcription and Programme Exchange Service (T&PES) consists of Sound Archives, Transcription Unit, Programme Exchange Unit, Foreign Programme Unit and Satellite Transmission Unit. The AIR archives store about 48,000 tapes of various formats which include vocal and instrumental music of both *Hindustani* and *Karnatic* styles; light, folk, tribal and patriotic music of different regions and also orchestral compositions. Besides, the Archives has the voice recordings of distinguished personalities like Mahatma Gandhi, Rabindranath Tagore, Khan Abdul Ghaffar Khan, Subhas Chandra Bose, Sardar Vallabhbhai Patel, Dr B.R. Ambedkar, Pandit Jawaharlal Nehru, Sarojini Naidu, Aruna Asaf Ali and many others. Apart from this, the speeches delivered by all the Presidents and the Prime Ministers are also preserved in the Archives.

Recordings from the Archives are now being transferred to compact discs which will replace the tapes presently in use. So far, 393 CDs of spoken word and music have been prepared. This year the Archives has helped prepare a CD/Cassette consisting of voice recordings of Rabindranath Tagore and a documentary on Rabindranath Tagore produced by Satyajit Ray. This along with a monograph on Tagore, jointly produced by AIR and Vishwa Bharati, was released by the Prime Minister in Calcutta. All the data related to the archives has been entered into computer. The archives has added to its collection 602 tapes which include, among others, the radio autobiography of Devendra Satyarthi, Pandit Yashwant Bhua Joshi and Amrit Rao Sinde.

The Programme Exchange Unit (PEU) exchanges good quality programmes among the AIR stations as per their requirements in its library. Approximately 8,200 tapes containing the recordings of music and spoken word programmes are preserved, among them are the *Ramcharit Manas Gaan* and award winning programmes of Akashvani Annual Awards and the language lessons in Bengali, English, Gujarati, Kannada, Malayalam, Marathi, Oriya, Sanskrit, Tamil and Telugu.

A bi-monthly bulletin *Vinimaya* is published from T&PES giving details of available foreign programmes, *Karnatic* and *Hindustani* music (vocal and instrumental) and other forms of musical programmes, viz., orchestral compositions, stage songs, folk and tribal music, etc., and spoken-word programmes, i.e., features, plays, talks, opera and interviews, etc., for circulation among the AIR stations. It also gives daily information regarding our satellite transmission to meet the requirements of the stations.

Transcription Unit procures from AIR stations and News Services Division, all the speeches delivered by the President and the Prime Minister

in different parts of the country and abroad. The unit received 194 speeches delivered from April 1999 to March 2000.

Central Tape Bank (CTB) looks after the needs of AIR stations for exchanging good programmes among the stations. CTB has 76,000 number of tapes circulated among various AIR stations.

The Foreign Programme Unit procures the best of the programme material from different countries for All India Radio. During 1999 the foreign unit of T&PES received 357 programmes from SAARC Secretariat, France, Germany, Bulgaria, World Radio for Environment, Britain, Australia and United Nations. These programmes are screened and circulated to stations in audio magnetic tapes and through INSAT 2 C and INSAT 2 C 3.

T&PES has a satellite transmission on RN Channels of INSAT 1D and RN Channels of INSAT 2A. A total of 500 programmes transmitted through these channels were recorded by different AIR stations for further use.

FARM AND HOME PROGRAMMES

Farm and Home units function at various stations of AIR. The average duration of farm and home broadcasts is 60-100 minutes per day from each station. The thrust of the broadcasts are on increasing production of cereals, oilseeds, pulses, vegetables, fruits, etc; adult education, role of *panchayats* in rural development. The broadcasts also include programmes for rural women and rural children. Broadcast of mother and child care series in collaboration with UNICEF and State governments has been undertaken by many AIR stations. Environmental protection and disaster management programmes receive adequate emphasis in these broadcasts.

HEALTH AND FAMILY WELFARE

AIR Stations broadcast more than 12,375 programmes on Family Welfare every month in all the major languages/dialects of our country. Programmes on AIDS, TB, dengue, sexually transmitted diseases, water-borne diseases, malaria eradication programme, child survival and safe motherhood programme, sterilization, vasectomy, tubectomy, etc., are broadcast under the title of family welfare programmes. Success stories are also broadcast regularly.

SPORTS

During 1999-2000, AIR provided extensive coverage to the national and international sporting events held in India and abroad. Major international events covered were the Sydney Olympics, World Cup Cricket Tournament in UK, Triangular Series in India, Asia Cup Cricket in Dhaka, Wimbledon Tennis Championship in London, ATF Asia Cup Tennis Championship at Delhi, Asia-Oceania Davis Cup Tennis at Delhi, Eighth SAF Games in Kathmandu, Raja Bhalinder Singh International Athletic Meet at Delhi, 13th Asia Pacific Swimming and Diving Championship at Delhi, Pre-Olympic Football Match at Calcutta, 4th Asia Cup Hockey (Women) at Delhi, 1st SAF

Winter Games in India, Asian Satellite International Badminton Tournament in India, etc. AIR also encourages traditional games like *Kabaddi*, *Kho-Kho*, etc., in its programmes.

AKASHVANI ANNUAL AWARDS

All India Radio presents Akashvani Annual Awards to outstanding broadcasts for every calendar year in different disciplines and subjects. Special prizes, *Lassa Kaul Awards* on National Integration and 'Correspondent of the Year' for excellence in News Reporting are also awarded. There is also an award for a special topic documentary. This year's subject is 'India in the New Millennium'. An award at national level is given to the Best Choral Singing Group (Senior and Junior Groups) for a competition held for children at various regional centres. An award for "Audience Research/Survey Reports" has also been introduced from 1995. AIR also awards the Best Commercial Broadcasting Service Centre and awards for Technical Excellence.

DOORDARSHAN

Doordarshan, the national television of India devoted to public service broadcasting is one of the largest terrestrial networks in the world. The flagship of Doordarshan—DD-1—operates through a network of 1,042 terrestrial transmitters of varying powers reaching over 87 per cent of the population. There are 65 additional transmitters giving terrestrial support to other channels. Doordarshan uses a large number of transponders on the Indian National Satellites (INSAT) and other satellites to network its terrestrial transmitters and also to extend coverage. Doordarshan has established programme production facilities in 49 cities across the country. Doordarshan programmes earned around six hundred crore rupees during the financial year 1999-2000 through commercial advertisements.

THE EARLY YEARS

The first telecast originated from a makeshift studio in the Akashvani Bhavan, New Delhi on 15 September 1959. A transmitter of 500 W power carried the signals within a radius of 25 km from Delhi. The regular service with a News bulletin was started in 1965. Television went to a second city Mumbai, only in 1972, and by 1975 Calcutta, Chennai, Srinagar, Amritsar and Lucknow also had television stations.

SITE

The first experiment with satellite technology in India, known as the Satellite Instructional Television Experiment (SITE), was conducted in 1975-76. This was, incidentally, the first attempt anywhere in the world of using the sophisticated technology of satellite broadcasting for social education. The year 1982 witnessed the introduction of a regular satellite link between Delhi and other transmitters, the starting of national programme and the era of colour television in the country. The Asian Games held in Delhi that year acted as the major impetus for bringing out these changes within a short period.

After 1992, television facilities began rapidly expanding and during certain periods the country got an additional transmitter every day. In the decade 1981-90, the number of transmitters increased from 19 to 519.

THREE-TIER SERVICE

Doordarshan has a three-tier primary programme service—national, regional and local. In the national programmes the focus is on the events and issues of interest to the whole nation. These programmes include news, current affairs, science, cultural magazines, documentaries, serials, music, dance, drama and feature films. The regional programmes originating from the state capitals and relayed by all transmitters in the respective state telecast programmes of interest at the state level, in the language and idiom of that particular region. The local programmes are area-specific and cover local issues featuring local people.

INFORMATION PROGRAMMES

On the National Network news bulletins are telecast in Hindi and English at regular intervals. All the major *Kendras* telecast news bulletins in the evenings in their respective languages where the regional events are covered in greater detail. Some *Kendras* telecast regional news in Urdu also. Doordarshan has a number of programmes on current affairs where topical issues are discussed in-depth, bringing out the various viewpoints. Information programmes also include telecast on agriculture, rural development, health, family welfare, consumer's rights, environment, etc. There are programmes specially targeted for women, children and youth.

Doordarshan brings to its viewers all the major national and international sports and games through live telecast. There are other programmes on sports, including interviews with eminent sports persons, sports education, etc. Doordarshan also has an exclusive sports channel. Doordarshan made elaborate arrangement to cover the Sydney Olympics 2000.

EDUCATIONAL TV

The educational programmes are at different levels ranging from basic health education for the not-so-well-educated to the higher education programmes for university students.

In 1961 India's first school television service was commissioned at Delhi for the institutions run by the Delhi Municipal Corporation. ETV programmes for school children are telecast from a number of regional *Kendras* in different languages covering both formal and informal education. The software for these programmes are produced by the Central Institute for Education Technology in Delhi and State Institutes of Education Technology of different Centres.

To put quality education within the reach of students residing even in small villages and towns, the University Grants Commission, has a countrywide classroom telecast on the national network. Besides this, syllabus-based

programmes for the students of Indira Gandhi National Open University are also being telecast on the national network.

An exclusive educational channel, DD-Gyandarshan, was started on 26 January 2000. This satellite channel is operated in collaboration with the Ministry of Human Resource Development through IGNOU.

ENTERTAINMENT

The entertainment programmes include music, dance, plays and serials. Feature films and programmes based on excerpts from feature films are also telecast on the national network and from the regional kendras.

METRO CHANNEL

In 1984 a second channel was added in Delhi to provide an alternative viewing to the heterogeneous metropolitan population. Later, similar facilities were provided to viewers in Mumbai, Calcutta and Chennai. In 1993 these four terrestrial transmitters were linked through satellite to provide an exclusive entertainment channel for the urban audience. This service, known as DD-2 Metro Entertainment Channel, is now available terrestrially in 62 cities. In other parts of the country the programmes of this channel could be received through dish antennas or through cable operators. The metro channel targets the younger viewers in urban areas.

REGIONAL LANGUAGE CHANNELS

To provide additional software in the major languages of the country, some of which are spoken by more than 50 million people, Doordarshan has 11 regional language satellite channels. The programmes on these channels include the regional service, which is available terrestrially in the concerned State and additional programmes which could be received in the satellite mode. These programmes are carried on the INSAT satellite which has footprint over the entire country and the regional language programmes could be watched by people irrespective of their place of residence.

Doordarshan also operates two other channels—DD-News, telecasting news and news-based programmes round-the-clock, and DD-Sports, the only free-to-air channel available in India devoted exclusively to sports programmes.

INTERNATIONAL CHANNEL

Doordarshan-India, the international channel, is in operation from 1995 and reaches about 50 countries in Asia, Africa and Europe through PAS-1 and USA and Canada through PAS-4 and PAS-1 satellite. It is presently on the air round-the-clock each day.

AUDIENCE RESEARCH

The Audience Research Unit of Doordarshan, manned by professional researchers, is involved in studies on the various aspects of broadcasting. It also operates a system of getting ratings on Doordarshan programmes each

week. Audience Research is also monitoring the voluntary feedback from viewers and maintains Data Banks at the national and *kendra* level.

VIEWERSHIP

Over the years Doordarshan's viewership has increased phenomenally and now an estimated 75 million homes have television sets which mean that 403 million people can watch Doordarshan programmes in their homes. Community TV sets have been established under various schemes operated by Central and State governments. In rural areas most of the privately-owned sets also act as community sets, attracting a number of viewers from non-TV homes and the total number who watch Doordarshan at least once in a week exceeds 500 million. In the last four years programmes of commercial channels operating from outside India are available for some sections of the population, but Doordarshan has retained more than 50 per cent of the total viewership in urban areas and more than 90 per cent of the viewership in the rural areas in most of the States.

PRASAR BHARATI

All India Radio and Doordarshan functioned as departments under the Ministry of Information and Broadcasting. There were persistent demands that the electronic media should be free from Government control and they should have autonomy in their functioning. The Parliament passed an Act to give autonomy to the media in 1990 itself, but at that time the Act was not notified. In 1997 the Government decided to notify this Act; Prasar Bharati, the autonomous Broadcasting Corporation of India, came into existence on 23 November 1997. A Board consisting of a chairman, an executive member and a number of part-time, full-time, ex-officio and elected members is to manage the affairs of Prasar Bharati. There is also to be a representative of the Government of India on the Board.

PRESS AND PRINT MEDIA

REGISTRAR OF NEWSPAPERS FOR INDIA

As per the provisions of the Press and Registration of Books (PRB) Act 1867 and Rules under it, the Registrar of Newspapers for India (RNI), commonly known as Press Registrar, is required, *inter alia* to submit an Annual Report to the Government on the status of newspapers before 30 September every year. According to the report submitted by the Press Registrar for the year 1999, the total number of newspapers and periodicals being published in India was 46,655 as compared to 43,828 during 1998, registering an increase of 6.47 per cent. There were 5,157 dailies, 337 tri/bi-weeklies, 16,872 weeklies, 6,240 fortnightlies, 12,796 monthlies, 3,273 quarterlies, 1,564 bi-monthlies/half-yearlies and 416 annuals. Newspapers were published in as many as 101 languages and dialects during 1999. The largest number of newspapers, (18,903) were published in Hindi, followed by English (6,830) and Urdu (2,803). Daily newspapers were brought out in all the principal languages except Kashmiri.

Newspapers were published from all states and union territories. Uttar Pradesh with 8,415 newspapers retained the prestigious position of publishing the largest number of newspapers in any state. In the case of dailies also Uttar Pradesh held the top position with 844 newspapers. *Bombay Samachar*, a Gujarati daily published from Maharashtra since 1822, is the oldest existing newspaper.

As per the RNI's report, the total circulation of the Indian newspapers during 1999 was 13,00,87,493, registering a marginal increase of 2.55 per cent over the circulation of 1998. *Anand Bazar Patrika*, a Bengali daily from Calcutta with a circulation of 6,74,481 copies, was the largest circulated single edition newspaper, followed by *The Hindustan Times*, an English daily from Delhi with 6,40,752 copies. *The Times of India*, an English daily from Delhi with a circulation of 6,32,978 copies occupied the third position. The largest circulated multi-edition daily was *The Times of India*, English (seven editions), with 16,95,945 copies. The second largest circulated multi-edition was the Malayalam daily, *Malayala Manorama*, (eight editions), with 11,32,813 copies. *Dainik Jagran* (Hindi) with 12 editions and a total circulation of 11,22,540 copies occupied third position.

Malayala Manorama, a Malayalam weekly published from Kottayam, Kerala, was the largest circulated periodical with 11,60,616 copies followed by *Saras Salil*, a Hindi monthly from Delhi having a circulation of 10,87,807 copies.

TABLE 11.1 : NUMBER OF NEWSPAPERS IN 1999
(LANGUAGE AND PERIODICITY-WISE)

Languages	Dailies	Tri/Bi-weeklies	Weeklies	Fort-nightlies	Monthlies	Quarterlies	Bi-monthlies/ Half-yearlies	Annually	Total
English	371	30	881	671	2,734	1,210	771	162	6,830
Hindi	2,305	125	9,608	2,878	3,180	589	185	33	18,903
Assamese	15	3	75	38	59	12	10	1	213
Bengali	99	14	594	494	681	458	169	17	2,526
Gujarati	118	11	776	182	492	58	47	14	1,698
Kannada	314	6	354	231	589	44	19	4	1,561
Kashmiri	0	0	1	0	0	0	0	0	1
Konkani	1	0	3	1	1	0	0	0	6
Malayalam	213	6	174	156	732	57	27	8	1,373
Manipuri	14	0	6	5	10	6	3	0	44
Marathi	346	20	1,108	189	504	110	41	113	2,431
Nepali	3	2	20	6	8	16	5	0	60
Oriya	71	2	142	83	267	88	23	4	680
Punjabi	107	15	350	89	237	32	18	1	849
Sanskrit	3	0	8	4	16	15	3	0	52

Sindhi	11	0	38	11	35	8	2	0	105
Tamil	352	43	393	227	786	32	22	8	1,863
Telugu	151	3	245	187	480	26	12	2	1,106
Urdu	519	20	1,317	361	506	60	17	3	2,803
Bilingual	73	19	593	334	1,148	336	142	34	2,679
Multilingual	17	4	103	63	208	67	34	12	508
Others	54	14	83	30	123	49	11	0	364
Total	5,157	337	16,872	6,240	12,796	3,273	1,564	416	46,655

PRESS INFORMATION BUREAU

The Press Information Bureau (PIB) is the nodal agency of the Government to disseminate information to the media on government policies, programmes, initiatives and achievements. Functioning as an interface between the Government and the media, the PIB also provides feedback to the Government with people's reaction as reflected in the media. With its 39 Regional/Branch Offices and Information Centres, the PIB disseminates information through different modes of communications, such as press releases, press notes, feature articles, backgrounders, press briefings, interviews, press conferences and press tours, database on PIB's website, etc. The information material released in Hindi, Urdu and 13 other regional languages reaches to about 7,000 newspapers and media organisations.

The Bureau at headquarters has a team of officers who are exclusively attached to various ministries and departments for the purpose of assisting them in disseminating information to the media and advise on all matters pertaining to publicity activities. They also provide feedback to their respective ministries and departments. As part of the Special Services, the Feedback Cell in the PIB prepares a daily digest and special digests based on news stories and editorials from national as well as regional dailies and periodicals. The Feature Unit of the Special Services of the Bureau provides backgrounders, updates, features and graphics. These are circulated in the national network and also sent to the Regional and Branch Offices for translation and circulation to the local press. PIB arranges photo coverage of Government activities and the photographs are supplied to dailies and periodicals published in English and other Indian languages all over the country. During 1999-2000, 2,59,615 photographs were supplied to the newspapers and periodicals.

The PIB is linked with 33 of its Regional and Branch Offices over computer network to facilitate speedy feeding of information. The Bureau has a web site on Internet which makes available publicity material such as press releases, features, photos and graphic for international consumption. The PIB internet home page is accessible at website pib.nic.in. The PIB's website was reviewed and new features like access to material through subscription by E-mail, etc., were undertaken. The Bureau has set up an interactive data bank. The 300 MB data bank is dynamic, interactive and exhaustive. The website

of the Bureau now has installed dynamic fonts so that Hindi subscribers can directly download Hindi press releases.

PIB is connected to its 22 regional-centres by video conferencing system. This enables media persons at regional centres to participate in press conferences in New Delhi and also in other parts of the country. The Bureau provided computers with Internet to all its departmental publicity officers and sections. PIB provides accreditation to media persons so as to make easy access to information from the government sources. 1,087 correspondents and 234 cameramen are accredited with the Bureau's headquarters. Besides, about 133 technicians and 71 editors/media critics have also been granted these professional facilities.

The Bureau's eight Regional Offices are located at Mumbai, Chennai, Chandigarh, Calcutta, Lucknow, Guwahati, Bhopal and Hyderabad. A National Press Centre set up in the Press Information Bureau, New Delhi serves as a nerve centre for both national and international Press. The Centre has all the facilities of international standards like a telecommunication centre, a press conference hall and a cafeteria.

NEWS AGENCIES

PRESS TRUST OF INDIA

India's largest news agency, Press Trust of India is a non-profit sharing cooperative owned by the country's newspapers with a mandate to provide efficient and unbiased news to all its subscribers. Founded on 27 August 1947, PTI began functioning from 1 February 1949.

PTI offers its news services in the English and Hindi languages. *Bhasha* is the Hindi language news service of the agency. PTI subscribers include 450 newspapers in India and scores abroad. All major TV/Radio channels in India and several abroad, including BBC in London, receive PTI service. The news services are provided at speeds up to 1,200 bits per second (about 1,400 words per minute) by satellite, data channels and ticker lines.

PTI is now on the Internet too and its website address is: <http://www.ptinews.com>.

With a staff of over 1,500 including 400 journalists, PTI has over 100 bureaux across the country and foreign correspondents in major cities of the world including Beijing, Bonn, Cairo, Dhaka, Islamabad, London, Moscow, New York and Washington. In addition, about 300 stringers contribute to the news file at home while 20 part-time correspondents bring news from the rest of the world.

Besides the English and Hindi language news services, the other services of the agency include the on-line Photo Service, mailer packages of Feature, Mag, Graphics, Science Service, Economic Service and Data India, and screen-based services as News-scan and Stockscan. PTI has a television wing, PTI-

TV, which provides spot coverage and makes corporate documentaries on assignment basis.

PTI has arrangements with the Associated Press and Agence France Presse for distribution of their international news in India. AP's photo and international commercial information services are also distributed in India through PTI. PTI is a partner in Asia Pulse International, a Singapore-registered company, formed by PTI and five other Asian media organisations to provide an on-line data bank on economic developments and business opportunities in Asian countries. PTI is also a participant in Asianet, a cooperative arrangement among 12 news agencies of the Asia-Pacific region for distribution of the corporate and government press releases.

PTI is a leading partner in the Pool of News Agencies of the Non-Aligned Countries and the Organisation of Asia-Pacific News Agencies. The agency contributes its news to these two news exchange arrangements and in turn receives news from the other participating members for its use.

UNITED NEWS OF INDIA

United News of India (UNI) was registered as a company in 1959 and began its news operations from 21 March 1961. UNI is now one of the largest news agencies in Asia with over 100 bureaux in India and abroad. It has more than 1,000 subscribers in the country and over 30 abroad. Its news service is provided to subscribers in four Gulf countries as well as Mauritius and Bhutan. It has reporters in 400 big and small towns in India. Its correspondents are located in a number of world capitals also. UNI also has collaboration with a number of foreign news agencies. It has more than 300 journalists working full time and about 400 as stringers.

UNI launched a full-fledged Indian language news service *Univarta*, in Hindi in May 1982. A decade later, it launched Urdu Service on teleprinter for the first time in the world.

In July 1986, UNI started its television wing which provides news features, newsclips and documentaries for Doordarshan and other organisations. Another specialised service run by the news agency is UNISCAN, a news service fed into television sets. A national photo service, started in 1987, is another pioneering venture. UNI also supplies computer-designed graphics in ready-to-use-form on economic and other topical subjects on a regular basis.

NON-ALIGNED NEWS AGENCIES POOL

The Non-Aligned News Agencies Pool (NANAP) is an arrangement for exchange of news among the news agencies of non-aligned countries who for long were victims of imbalances and bias in the flow of news. The Pool came into existence in 1976 with India as its first Chairman (1976-79). The Pool is a worldwide operation embracing four continents, viz., Asia, Europe, Africa and Latin America. The Pool news is exchanged in four languages-English, French, Spanish and Arabic.

Pool activities are coordinated by an elected body known as the Coordinating Committee with a Chairman as its head. The Chairmanship, is co-terminus with the tenure of the Coordinating Committee and goes by rotation. The members of the Coordinating Committee are elected on the basis of regional representation, continuity, active participation and rotation. The Coordinating Committee meets once a year and the meetings are open to all member agencies.

Six General Conferences and 17 meetings of the Coordinating Committee have taken place since the inception of the Pool. The last General Conference of the Pool was held in Tehran in June 1992, when the Iranian news agency IRNA assumed the Chairmanship of the Pool from ANGOP of Angola. The countries elected to the Coordinating Committee in Tehran were India, Indonesia, Vietnam, DPR Korea, Kuwait, Syria, Mongolia, Bahrain, Afghanistan, Lebanon and Oman from Asia; Angola, Algeria, Burkina Faso, Congo, Ethiopia, Egypt, Ghana, Guinea-Bissau, Morocco, Mozambique, Namibia, Senegal, Sudan, Tanzania, Tunisia and Zambia from Africa; Yugoslavia from Europe; and Bolivia, Cuba, Ecuador, Mexico, Peru, Surinam and Venezuela from Latin America.

At the Tunis General Conference of the Pool in November 1982 a resolution was adopted to form a Monitoring Group, for closer review and monitoring of the Pool operations. The Monitoring Group was last reconstituted in Tehran in 1992 when Malaysia, India, Indonesia, Nigeria, Libya, Zimbabwe, Mexico, Peru, Cuba and Yugoslavia were elected to it.

India has played a vital role in the creation and expansion of the Pool. India News Pool Desk is operated by Press Trust of India. The agency receives news copy from Pool Partners and in turn contributes Indian news into the exchange arrangement on a daily basis. The incoming news traffic from Pool member agencies into PTI is in the range of about 15,000 words per day. PTI's contribution into the network is about 7,000 words per day. The news is exchanged through a network of satellite/terrestrial/E-mail communication links with Antara (Indonesia), Bernama (Malaysia), Lankapuvath (Sri Lanka), GNA (Bahrain), VNA (Vietnam), Prensa Latina (Cuba), Tanjug (Yugoslavia), BSS (Bangladesh), RSS (Nepal), MENA (Egypt), MAP (Morocco) and NAMPA (Namibia). Leading national dailies of the country publish between 20 to 30 Pool items a month.

As part of the News Pool operation, the Indian Institute of Mass Communication, New Delhi, which is recognised as a premier institute for training in journalism in the Non-Aligned countries, has been offering a regular course in news agency journalism. The five-month twice a year course is popular with journalists of both the print and electronic media belonging to the non-aligned countries.

PRESS COUNCIL OF INDIA

The Press Council of India has been established under an Act of Parliament

for the purpose of preserving the freedom of the press and of maintaining and improving the standards of newspapers and news agencies in India. The Chairman of the Council is by convention, a retired judge of the Supreme Court of India. The Council has 28 members - 20 from the newspaper world, five are Members of Parliament (three nominated by the Speaker of the Lok Sabha and two by the Chairman of the Rajya Sabha) and remaining three are nominated by the Sahitya Academy, the Bar Council of India and the University Grants Commission. The Council is reconstituted every three years. The Council has its own source of revenue in that it collects levy from the registered newspapers and news agencies. It also receives grant-in-aid from the Central Government for performing its functions.

As an autonomous quasi-judicial body, the aim of the Press Council is to administer ethics and to inculcate principles of self-regulation among the Press. It also keeps under review any development likely to interfere with the freedom of the Press. The Council discharges its ' functions primarily through adjudications on complaint cases received by it, either against the Press for violation of journalistic ethics or by the Press for interference with its freedom, where the Council is satisfied during the inquiry that a newspaper or a news agency has offended against the standards of journalistic ethics or public taste or that an editor or working journalist has committed any professional misconduct, the Council may warn, admonish or censure them or disapprove of their conduct. The Council is also empowered to make such observations as it may think fit in respect of the conduct of any authority, including Government, for interfering with the freedom of the press. The decisions of the Council are final and cannot be questioned in any court of law.

During 1999-2000, the Press Council of India received 1,200 complaints of which 400 were filed by the Press and 800 were against the Press. 986 cases were already pending. The Council adjudicated 354 cases. 1,021 cases were dismissed by the Council at the preliminary stage for lack of sufficient grounds for inquiry. The Council disposed of 1,375 matters during 1999-2000.

The Press Council prepared and adopted on 6 April 1999 a report based on the recommendations of its independent panelists, on the role of the Press during Assembly elections 1998 in Delhi, Rajasthan, Madhya Pradesh and Mizoram. It expressed satisfaction over the Press reportings during election time in the said states as on the whole they were well balanced.

On the National Press Day observed on 16 November 1999, the Press Council organised a seminar on 'Media and the Society' in New Delhi. The Council also organised a meet on 20 February 2000 on the proposed legislation on Right to Information.

Press Council Act, 1978 also empowers the Council to *suo moto* initiate studies on various matters that have bearing on the freedom of the Press and its standards. During the period the Council set up a committee to study various aspects of the print media. The Council launched its first Hindi quarterly publication *Press Parishad Samiksha* in September 1999.

RESEARCH REFERENCE AND TRAINING DIVISION

The Research, Reference and Training Division (RR&TD) functions as an information servicing agency to the Ministry of Information and Broadcasting and its media units. Its functions include providing background notes and reference papers on current topics and preparing publicity material for the use of the Ministry and its offices. The Division brings out backgrounders, reference papers, fact-sheets on topics of national importance, biographical sketches of eminent personalities and also an annual programme calendar of national events. The Division also brings out a monthly, *Development Digest*, focusing on development issues and two fortnightlies *Media Update* highlighting national and international media events and *Diary* focusing on major national and international events.

The Division compiles and edits the book entitled *INDIA, a reference annual* every year. The annual is a well-documented volume and highly rated as a book of reference by research scholars, journalists, officials and others. It was first published in 1953 and so far 44 editions have been released. The Annual contains information on India's geographic and demographic features, its polity and economy, its plans and programmes for socio-economic development, etc. The annual programme calendar entitled *Events 2000* was brought out for the first time in January 2000.

The Division maintains a well-stocked library having over 66,000 books as well as bound volumes of reports and periodicals. Its collection includes specialised books on journalism, public relations, advertising and audio-visual media, encyclopaedia series, year-books and contemporary articles. During 1999-2000, 335 new titles were added to the library, of which 27 books are in Hindi on various subjects. The library caters to the needs of the Ministry of Information and Broadcasting and its media units as also accredited media representatives. It has a total membership of about 1,000 readers. The Division has introduced 'Composite Library Information Management System' to provide on-line referral services to the users.

The Division has a National Documentation Centre on Mass Communication which was created in 1976 on the recommendation of an Experts Committee set up by the Ministry. Its main objectives are collecting, interpreting and disseminating information about the events and trends in mass media, including press, radio, television, advertising, traditional and folk media and the media units of the Central and State governments. It also disseminates information through seven regular documentation services. The Centre brings out an annual on mass communication under the title *Mass Media in India*.

The Division coordinates training of Indian Information Service (IIS) officers Group 'A' and Group 'B' in collaboration with the Indian Institute of Mass Communication (IIMC), New Delhi. The training reflects the Government's emphasis on manpower planning and development.

PHOTO DIVISION

Photo Division is the biggest production unit of its kind in the country, in the field of photography. The Division is responsible for preparing photographs in black and white as well as in colour for internal and external publicity on behalf of the Government of India. It provides photographic visuals to the media units of the Ministry of Information and Broadcasting and other Central and State government departments, and the Indian Missions abroad through the XP Division of Ministry of External Affairs. It undertakes extensive photo coverage of the visits of the President, the Vice-President and Prime Minister to various parts of the country and abroad as well as the visit of foreign dignitaries in India. The Division also supplies photographs/colour slides on payment to non-publicity organisations and general public. It has well equipped laboratories and equipment for handling different kinds of photographic jobs and assignments. A Photo Data Bank has been installed in the headquarters in Delhi. The Division has four regional offices in Mumbai, Calcutta, Chennai and Guwahati. During April-November 1999, the Division earned a revenue of Rs 8.21 lakh by supplying photographs. A News Photo Network linking all regional offices for photo publicity of Government activities has been installed. The process of storing the current events photographs into the News Photo Network is also in progress. Photo Division is also placing photographs on the Internet through PIB.

The Division provided extensive coverage to the General Elections 1999, and also to the Prime Minister's visit to Bangladesh, South Africa and the United States. During September 1999, the Division installed the CSI 200 (Digital Photo Library) for digitising images and indexing photographs. So far 50,000 images have been digitised which are being stored in the Hard Disc (Preserver). The Division organised a photo exhibition titled 'A Moment of Heroism in Kargil'.

PUBLICATIONS DIVISION

The Publications Division is one of the larger publishing houses in the country. It produces books and journals on matters of national importance and on India's rich cultural heritage and reaches them to readers at affordable prices. Of about 7,000 titles published so far nearly 1,500 are live. The Division publishes about 120-150 titles in a year. In 1999-2000, the Division brought out 150 books. The subjects published by the Division cover a gamut - from art, history, culture, biographies of eminent persons, land and people, flora and fauna, science and technology, Gandhi literature, to works of reference like *INDIA, a reference annual*, and *Mass Media in India* (both edited and compiled by the Research Reference and Training Division). Volumes containing selected speeches of the Presidents and the Prime Ministers are also published.

In keeping with the times, the Division has started electronic publishing by bringing out *INDIA, a reference annual* in CD-ROM format. *INDIA-2000* has been released both in book form and in CD format. The Publications Division is now on Internet and has its own Homepage.

The Division has to its credit what is perhaps the largest multi-volume project, *The Collected Works of Mahatma Gandhi* in 100 volumes in English. The project in Hindi is expected to be completed shortly. Based on the *Collected Works*, Publications Division has brought out a multimedia interactive CD on Mahatma Gandhi which contains 15 minutes of his voice, 30 minutes of film-footage on him, about 550 photographs and 55,000 pages of his writings and speeches. This CD is now being brought out in Hindi.

The Publications Division is presently engaged in bringing out important titles like *50 Years of Indian Republic*, *Empowerment of Women*, *Changing Face of Rural India*, *Marine Archaeology*, *India Illustrated*, *Common Indian Flowers and Common Indian Birds* (in English), *Upgraha Ke Baahar Bheetar - Bharat Ke Hastakshar and Ashtchhap Kaviyon Ki Rachnayaen* (in Hindi) and *This India* (in Telugu and Kannada). Among the important titles published since April 1999 are: *The Radiant Himalayas and Dance Legacy of Pataliputra* (in English), *Mother Teresa Prerak Prasang* (in Hindi) and *This India* (in English, Hindi, Tamil, Malayalam and Marathi). Among other languages, the important books brought out include *Prachin Bharata* (Kannada), *Buddarin Punida Vaaku* (Tamil), *Dayal Singh Majithia* (Punjabi), *Mahapurushulu - Mahatkaryalu* (Telugu), *Yaaden Muzahideen-e-Azadi Ke* (Urdu), and *Kakasaheb Kalelkar* (Gujarati).

The Publications Division also brings out 21 journals in Hindi, English and various Indian languages. *Yojana*, which has 13 editions, focusses on economic development. *Kurukshetra* in Hindi and English focusses on rural development. *Ajkal* (Hindi and Urdu), the literary magazine, has earned a place in world literature. The popular children's magazine *Bal Bharati* provides highly informative, educative and inspirational literature to the young readers. Besides these, the Publications Division brings out *Employment News* in English, Hindi and Urdu to provide information on job opportunities in Government and other organisations. Its circulation is around 5.5 lakh.

The Division has been giving *Bhartendu Harish Chandra Awards* to encourage original creative writing in Hindi in various disciplines of mass communication. Awards for children's literature, books on national integration and women issues are also given.

The Publications Division won three awards in 1999 for excellence in book publishing instituted by the Federation of Indian Publishers. The Director, Publications Division was chosen for the award of distinguished women publishers.

AUDIO-VISUAL MEDIA

Feature films are being produced in India since 1912-13. While R.G. Torney along with N.G. Chitre made *Pundalik* in 1912, Dhundiraj Govind Phalke (1870-1944) produced *Raja Harishchandra* in 1913. The era of silent films was overtaken by the talkie era in 1931 when Ardeshir Irani (1886-1969) produced *Alam Ara*, though silent movies continued to be produced till 1934. India now leads the world in the annual output of feature films.

CENTRAL BOARD OF FILM CERTIFICATION

Films can be publicly exhibited in India only after they have been certified by the Central Board of Film Certification (CBFC). The Board set up under the Cinematography Act, 1952, consists of a Chairman and a minimum 12 and a maximum of 25 non-official members, all appointed by the Government. The Board functions with headquarters at Mumbai and nine regional offices at Bangalore, Mumbai, Calcutta, Hyderabad, Chennai, Thiruvananthapuram, New Delhi, Cuttack and Guwahati. The films produced in 14 languages are certified by nine offices all over the country. The regional offices are assisted in the examination of films by members of advisory panels which include eminent educationists, art-critics, journalists, social workers, psychologists; etc. The Board examines films for certification in accordance with the provisions contained in the Cinematography Act, 1952, the Cinematography (Certification) Rules, 1983 and the guidelines issued by the Central Government. The Film Certification Appellate Tribunal, New Delhi hears appeals against the decision of the CBFC. In 1999, the Board certified 764 Indian and 203 foreign feature films, 971 Indian and 227 foreign short films, 115 Indian video feature films and 39 foreign video feature films, 654 Indian video short films and 446 foreign video short films.

FILMS DIVISION

The Films Division was set up in 1948 to revive the production of newsreels and documentary films. It is the largest national agency devoted to the production and distribution of documentaries and news magazines. It produces news magazines, documentaries and 16 mm featurettes for rural audience in regional languages. It also produces cartoon films and educational films for various ministries and departments of the Government of India. Films Division holds 8,000 titles on Documentaries, Short Films and Animation Films in its archives. Through its 10 distribution branches located at Bangalore, Mumbai, Calcutta, Hyderabad, Lucknow, Chennai, Madurai, Nagpur, Thiruvananthapuram and Vijayawada, the Division has been releasing its documentaries/news magazines every week in all the cinema theatres in the country. Thus the Division emerged as a powerful force behind the documentary film movement in the world.

The Films Division organises film festivals in different parts of the country. It organised documentary film festivals of award winning films at Thiruvananthapuram, Shimla and Ernakulam during 1999. The Films Division won a state award at the 36th *Maharashtra Chitrapat Mahostav* and three awards at the 46th National Award Ceremony during 1999-2000. The Films Division also received the International Jury Award (26th International Festival of Professional Films, TV and Video Programmes) EKOTOP FILM - 1999.

The Films Division is entrusted with the task of organising the biennial Mumbai International Film Festival of Documentary, Short and Animation Films (MIFF). At the Sixth MIFF held in February 2000, 542 films from

34 countries were received and 87 films were chosen for the National Video Section, 44 films for International Video Section and 69 films for International Films Section. The award money earmarked in MIFF 2000 was Rs 24.50 lakh. The next Mumbai International Film Festival is scheduled to be held in February 2002.

During 1998-99, the Films Division produced 35 news magazines and 51 documentaries/short featurettes and video films and earned revenue amounting to Rs 81.29 lakh.

NATIONAL FILM DEVELOPMENT CORPORATION LIMITED

The National Film Development Corporation (NFDC) Limited incorporated in 1975, was restructured in 1980 after amalgamation of the Indian Motion Picture Export Corporation (IMPEC) and Film Finance Corporation (FFC). The primary objective of NFDC is to foster excellence in cinema and to develop state-of-the-art technology in audio visual and related fields. The main activities of the Corporation include financing and producing films with socially relevant themes, creative and artistic excellence and experimental in form; distribution and dissemination of films through various channels. NFDC also provides essential pre-production and post-production infrastructure to the film industry, in pace with the latest technology, which includes financing of theatre construction. NFDC also endeavours to promote culture and understanding of Cinema by organising Film Weeks, Indian Panorama and Film Festivals in collaboration with Film Societies, National Film Circle and other agencies representing Indian and Foreign Films.

NFDC encourages the concept of low-budget films which are high in quality, content and production values. During 1999-2000, the film *Samar* (Hindi) produced by NFDC for the Ministry of Social Justice and Empowerment, won the National Award for the Best Film. The Film also bagged the award for the best Screen Play. NFDC film *Dr Babasaheb Ambedkar* won the National Award for the Best English Film, apart from winning the Best Actor Award for Mammooty for his role as Dr Ambedkar. A third award bagged by this film was for the Best Art Direction by Nitin Desai. Another NFDC financed film *Saheed-e-Mohabbat* won the National Award for the Best Punjabi Film. NFDC films dominated the Indian Panorama scene as well with five films produced by the Corporation under various categories, having been selected for screening during the IFFI 2000.

During 1999-2000 (up to November 1999) production of eight feature films in different languages were completed and another 12 films in various categories were under production. The Corporation limited its import only for Television and Satellite channels rights and 22 films were imported during the year (up to November 1999).

NFDC continued to exhibit its own and acquired films on various Doordarshan channels such as DD-1, DD-2, DD International and Regional Movie Club. NFDC also produced and marketed film song based programmes

on DD-1, DD-2 channels. NFDC's 16mm film centre at Calcutta provides production and post-production facilities to the film industry of Eastern-Region. At the NFDC's laser sub-titling unit, Mumbai sub-titling in all the Latin character foreign languages and Arabic are being done. The unit also undertakes video sub-titling in various regional and foreign languages.

The Cine Artists' Welfare Fund of India, set up by NFDC, is the biggest ever trust in the Indian Film Industry with a corpus of Rs 4.16 crore. During 1999-2000 (up to November) financial assistance to the tune of Rs 21.05 lakh has been extended to needy cine artists.

DIRECTORATE OF FILM FESTIVALS

The Directorate of Film Festivals (DFF) was set up by the Government of India under the Ministry of Information and Broadcasting in 1973 with the prime objective of promoting good cinema. Since then, the Directorate has provided a platform for the best in Indian cinema by holding the National Film Festival every year. It has also proved to be a vehicle for promoting cultural understanding and friendship at the international level. Within the country, it has made the newest trends in world cinema accessible to the general public.

The 31st International Film Festival of India (IFFI) was held in New Delhi from 10 to 20 January 2000. The Festival had a number of sections like "Cinema of the World", "Competition-Feature Films by Asian Directors", "Indian Panorama", "Retrospectives/Tributes", and "Mainstream Indian Cinema". Another highlight of the 31st IFFI was the conferment of the Lifetime Achievement Award (to a foreign film personality for outstanding contribution to cinema) upon Lester James Peries of Sri Lanka.

In the 46th National Film Festival held in July 1999, *Samar* (Hindi) directed by Shyam Benegal and *In the Forest Hangs a Bridge* (English) directed by Sanjay Kak were adjudged Best Feature and Best Non-feature films respectively. The award for the Best Book on Cinema went to *Samvadon Ka Vishleshan* by Dr Kishore Vaswani. Ms Meenakshi Shedde was recommended for the Best Film Critic award for 1998. The prestigious Dada Saheb Phalke Award for 1998 was conferred upon B.R. Chopra. The awards were presented on 15 February 2000.

The 47th National Film Awards to the winners of different categories were given away on 18 September 2000. The Dada Saheb Phalke Award-1999 was presented to veteran Film Director Hrishikesh Mukherjee. The 1999 Best Feature Film Award was given to Malayalam Film *Vaanaprastham*. Award for 'Best Popular Film providing wholesome entertainment' was given to Hindi film *Sarfarosh*. Nargis Dutt Award for Best Feature Film on National Integration was presented to Punjabi film *Shaheed Uddham Singh*. The Indira Gandhi Award for the Best First film of a director is shared by Haryanvi film *Laado* and English film *Dollar Dreams*. Adjudged Best Film on Family Welfare was *Hari Bhari* produced by the Ministry of Health and Family Welfare and directed by Shyam Benegal. Best Film on Social Issues was *Kaaree* (Hindi) also produced by the Ministry of Health and Family Welfare and

directed by Amol Palekar. The *Goal* (Hindi) directed by Gul Bahar Singh was given the Best Children's Film Award. Award for Best Direction was received by Buddhadev Dasgupta for his Bengali film *Uttara*. Best Actor Award was given to Actor Mohan Lal for his role in Malayalam film *Vaanaprastham* while Kiron Kher received the Best Actress Award for Bengali film *Bariwali*. Best Male Playback Singer Award was given to M.G. Sreekumar and Best Female Playback Singer Award to Ms Jayshree Dasgupta. Special Jury Award was presented to Kalabhavan Mani for his role in Malayalam film *Vasanthiyum Lakshmiyum Pinne Njanum*.

The Directorate of Film Festivals under the cultural exchange programmes of India organised Festival of Films from Finland, Sweden, Cyprus, Italy and the Netherlands. Indian Film weeks were also organised abroad in Germany, Mongolia and Russia. Besides, films were also sent for participation in the SAARC film festival and Indian Film Weeks in France and Egypt. The Directorate participated in 51 International Film Festivals abroad.

NATIONAL FILM ARCHIVE OF INDIA

The National Film Archive of India (NFAI) was established as a media unit of the Ministry of Information and Broadcasting in February 1964. Its three principal objectives are : (i) to trace, acquire and preserve for posterity the heritage of Indian cinema; (ii) to classify, document data and undertake research relating to films; and (iii) to act as a centre for the dissemination of film culture. With headquarters at Pune, NFAI has three regional offices at Bangalore, Calcutta and Thiruvananthapuram. Its distribution library of 16mm films extends facilities to members throughout the country. NFAI has been member of the International Federation of Film Archives since May 1969 which enables it to get expert advice and material on preservation techniques, documentation, bibliographies, etc., and to exchange rare films with other archives under the archival exchange programme. NFAI conducts its annual 4-week Film Appreciation Course in coordination with the Film and Television Institute of India and collaborates with other agencies in organising several short-duration courses in other centres.

CHILDREN'S FILM SOCIETY, INDIA

Children's Film Society, India (CFSI) also known as National Centre of Films for Children and Young People (N'CYP) was established in 1955 to provide value-based entertainment to children through the medium of films and is engaged in production, acquisition, distribution and exhibition of such films.

Films produced/procured by the Society are exhibited through State/district-wise package programmes. During 1999-2000, 59 programmes comprising over 2,502 shows with an audience of 11.61 lakh were organised. Specific efforts have been made to take these programmes to north-eastern States and other remote areas in recent years. In addition, an audience as large as 22.74 lakh was achieved by various parties co-working with CFSI through 4413 shows.

The films produced by CFSI screened in various National and International Film Festivals have won many awards. CFSI holds its own International Film Festival every alternate year.

DIRECTORATE OF ADVERTISING AND VISUAL PUBLICITY

The Directorate of Advertising and Visual Publicity (DAVP) is the only multimedia advertising agency of the Central Government to inform the people about the activities, policies and programmes of the Government and to motivate them to participate in developmental activities. It caters to the communication needs of client ministries and departments as also of some autonomous bodies in different languages through the print material, press advertisements, audio-visual publicity programmes on radio and television, outdoor publicity and exhibitions. It is one of the biggest advertising agencies in the country using about 5,196 newspapers for press advertisements. Publicity material of DAVP is dispatched to over 15 lakh addresses under 545 categories. DAVP, with its headquarters at New Delhi, has two regional offices at Bangalore and Guwahati, two regional distribution centres at Calcutta and Chennai, and 35 field exhibition units spread all over the country.

PRINTING OF MATERIAL

DAVP brings out publicity literature in English, Hindi and some other regional languages. During 1999-2000, the Directorate brought out folders, booklets, brochures, posters, stickers, wall hangers, etc., on variety of schemes/programmes like rural development, health and family welfare, income tax, women and child development, national integration and communal harmony, Union Budget, AIDS, immunization, drug abuse and prohibition, etc. Some of the important printed material brought out include the Prime Minister's speeches delivered on various occasions.

OUTDOOR PUBLICITY

During 1999-2000, the Outdoor Publicity Wing of the Directorate arranged nationwide publicity for various programmes and themes of the Government like national integration and communal harmony, consumer rights. National Film Festival, rural development, drug abuse, road safety, etc.

EXHIBITIONS

DAVP put up 279 exhibitions for 1,690 exhibition days in different parts of the country to publicise various schemes, programmes and policies of the Government. This was done through its network of 35 Field Exhibition Units. These include seven mobile exhibition vans, seven family welfare exhibition vans and 21 general exhibition units.

AUDIO AND VISUAL PUBLICITY

During 1999-2000, 5,500 audio and 200 video programmes were produced, with the total number of broadcasts and telecasts standing 39,000 and 7,100

respectively. The programmes were produced in Hindi, English and some other regional languages and broadcast/telecast all over the country over AIR/Doordarshan.

During the year, the Directorate produced and broadcast radio-sponsored programmes entitled *Aao Haath Badhayen* on welfare themes, *Haseen Lamhe* on family welfare, *Gaon Vikas Ki Ore* and *Chalo Gaon Ki Ore* on rural development. *Jiyo Aur Jeene Do* on AIDS prevention, *Apne Adhikar* on Consumer Rights and *Naya Savera* on women and child development. Programmes were also broadcast on Anti-Malaria, Women Empowerment and Early Marriage. The telecast of video spots included Y2K, Child Labour and General Elections.

PRESS ADVERTISEMENTS

Press Advertisements were released on behalf of various ministries/departments of the Central Government and for some of the autonomous bodies. Besides release of classified advertisements relating to recruitments, tenders and auctions, display advertisements in various sizes were issued on different publicity themes. During 1999-2000, more than 21,055 Press Advertisements in English, Hindi and other regional languages were issued to newspapers. These covered important days/weeks/fortnights and important themes during the year. A special advertisement was released on 11 May entitled 'Pokhran II-Power for Peace'.

MASS MAILING WING

The Mass Mailing Wing of DAVP is one of the biggest mass mailing units in Asia. It has an address bank of nearly 15 lakh organisations spread over 557 categories. These addresses are regularly updated after periodical reviews.

DIRECTORATE OF FIELD PUBLICITY

The Directorate of Field Publicity (DFP) is the largest rural-oriented inter-personal communication medium in the country, which acts as a two-way bridge between the people and the Government. It was established in 1953, under the name "Five Year Plan Publicity Organisation", publicity of the Five Year Plans being its sole objective. In December 1959 the organisation was renamed the Directorate of Field Publicity. Over the years, however, its area of operation, as also its aims and objectives, have expanded. These aims and objectives in brief are: (a) to inform people about the programmes and policies of the Government by bringing its men and material face to face with the people at large; (b) to educate people about the fundamental national values like secularism, democracy and socialism; (c) to mobilize public opinion for the implementation of developmental programmes and muster popular participation in the process of nation building; and (d) to keep the Government informed of people's reactions to its programmes and policies, and their implementation at the field levels, facilitating thereby the application of corrective measures as and when required. The Directorate resorts very largely to inter-personal communication like group discussions, public meetings,

seminars, symposia, etc., to convey its messages to the people. Visual support is provided in the form of films, photo exhibitions and live entertainment programmes. Colourful programmes like rallies, and competitions like singing, rangoli, debates, essays, sports, etc., are also organised.

The Directorate, with its headquarters at New Delhi, has 22 Regional Offices and 268 Field Units. During 1999-2000 the field publicity units organised 49,521 film shows, 60,532 oral communication, 13,819 special programmes and 35,573 photo exhibitions. The Regional Offices organised seven conducted tours of opinion leaders to different parts of the country.

SONG AND DRAMA DIVISION

The Song and Drama Division was set up in 1954 as a unit of the All India Radio. It was given the status of an independent media unit in 1960 as a subordinate office of the Ministry of Information and Broadcasting. It was established for tapping the resourceful live media, particularly the traditional and the folk forms for Plan publicity. It has the advantage of instant rapport with the people and the flexibility in its forms, to incorporate new ideas effectively. It utilises a wide range of stage forms such as drama, folk and traditional plays, dance-drama, folk recitals and puppet shows besides the Sound and Light medium to focus the attention of the audience on important aspects of the country's life and development in different fields.

The Division has 10 Regional Centres at Bhopal, Chandigarh, Delhi, Guwahati, Lucknow, Chennai, Pune, Calcutta, Bangalore and Ranchi. It has nine sub-centres located at Bhubaneswar, Hyderabad, Patna, Imphal, Jodhpur, Darbhanga, Nainital, Shimla and Srinagar.

Border Publicity Scheme was introduced in Song and Drama Division in 1966 with the objective to boost the morale of the people along the sensitive international boundaries and keep them bound to the country's unity and integrity. In 1967 Armed Forces Entertainment Wing was set up with a view to entertaining *jawans* posted in forward areas. Of the nine troupes, one is based in Chennai and the rest in Delhi. A new medium, an amalgam of Sound, Light and Live action was adopted by Song and Drama Division in 1976. There are three Sound and Light units one each at Allahabad, Bangalore and Delhi. In 1981 the Division set up a tribal centre at Ranchi for participation of tribals in the programme activities. The centre covers Bihar, Madhya Pradesh and Orissa.

The Song and Drama Division puts up field programmes in coordination with the sister media units of the Ministry of Information and Broadcasting, Central/State government departments and voluntary organisations. The Division works in close coordination with the Ministries of Health and Family Welfare, Defence, Rural Development, Social Justice and Empowerment, Human Resource Development, etc. During 1999-2000, the Division organised 38,576 programmes on broad national themes and Government policies. These programmes were held mostly in rural and semi-urban areas.

TRAINING

FILM AND TELEVISION INSTITUTE OF INDIA

Film and Television Institute of India (FTII), Pune offers training in the art and craft of Film and Television. Students are admitted to regular courses in Film and Television and on completion of three-tiered course of study, are awarded Diploma in Direction, Cinematography, Editing and Audiography. FTII conducts short-term courses in various fields related to Media, Television and Films and also imparts in-service training to Doordarshan employees in Programme Production and Technical Operation. Short-term courses are also conducted for Indian Information Service probationers.

FTII regularly enters the student diploma films in various national and international film festivals. Four diploma films, namely, *Of Confucius S-Sports and Toy Guns*, *Nazar Ka Dhoka*, *The Voices* and *Kajra Mohabbat Wala* were shown in the Non-feature Section of Indian Panorama of 31st International Film Festival of India - 2000, New Delhi. During the year, the Institute's films were shown in SAARC Film Festival, Taipei Film Festival, Clermont-Ferrand Short Film Festival, France, Munich International Film Festival of Film Schools, International Student Film Festival - SEH - SUCHTE Potsdam - Germany, Festival of Film Schools organised by Ecole Superior d'Audiovisual - France, Chicago Film Festival, Kyoto Film Festival, International Film Festival in Kerala.

Every summer, FTII in collaboration with NEAI conducts a four-week course in Film Appreciation in Pune.

SATYAJIT RAY FILM AND TELEVISION INSTITUTE

The Satyajit Ray Film and Television Institute (SRFTI) Calcutta was established and registered as a Society under the West Bengal Societies Registration Act, 1961 on 18 August 1995. The Institute provides training in film and television production and other allied subjects and grants diplomas to the trainees. At present the Institute offers Three Years' Diploma Courses in: (i) Film Direction and Screenplay Writing; (ii) Motion Picture Photography; (iii) Editing (Film and Video) and (iv) Sound Recording. The Institute is an Autonomous Society with the Governing Council, Standing Finance Committee and an Academic Council under the President who is also the Chairman of the Institute. The first batch of students has completed its diploma in Film Direction. The Institute entered into a student exchange programme with Germany.

INDIAN INSTITUTE OF MASS COMMUNICATION

The Indian Institute of Mass Communication is an autonomous centre for advance study in mass communication, research and training. It was established in 1965 and registered under the Societies Registration Act (XXI) of 1860. The Institute is fully funded by the Government of India through the Ministry of Information and Broadcasting. It has four branches at Dhenkanal (Orissa), Kottayam (Kerala), Jhabua (MP) and Dimapur (Nagaland).

The Institute conducts the following major courses (1) Orientation Course for officers of the Indian Information Service (Group A), (2) Post-graduate Diploma Course in Journalism (English) - New Delhi and Dhenkanal (Orissa), (3) Post-graduate Diploma Course in Journalism (Hindi), (4) Post-graduate Diploma Course in Advertising and Public Relations, (5) Post-graduate Diploma Course in Radio and TV Journalism, and (6) Diploma Course in Development Journalism for Non-aligned and developing countries. The Institute conducts each year a number of specialised short courses and workshops to meet the training needs of media personnel working in Central/ State government, public sector organisations, courses for senior army/police officers and the courses sponsored and funded by international organisations and other funding agencies. In addition, the Institute organises a number of refresher courses for the Indian Information Service personnel working in various Media Units of the Central government.

Over the years, the Institute has conducted several major research projects for a number of international organisations, government and non-government bodies.

STAFF TRAINING INSTITUTE (PROGRAMME)

The Staff Training Institute (Programme) - STI (P) of All India Radio established in 1948 at Delhi imparts in-service training to various cadres of programme staff of All India Radio including administrative staff of Akashvani and Doordarshan. Besides, there is one STI(P) at Cuttack and five Regional Training Institutes at Hyderabad, Shillong, Ahmedabad, Thiruvananthapuram and Lucknow to cater to the training needs of the Radio Stations in the respective regions. It is conducting various departmental examinations for administrative staff.

The Institute provides training in personnel and financial management for senior level officers, basic courses for programme executives and transmission executives, specialised courses and workshops for various audio formats and special audience programmes. Administrative training courses are also arranged for general office management, departmental enquiries, proforma accounts, maintenance of Office Records etc. During 1999-2000 STI (P) conducted 85 training courses for 1,423 personnel.

STAFF TRAINING INSTITUTE (TECHNICAL)

Staff Training Institute (Technical) caters to the training needs of the engineering personnel of All India Radio and Doordarshan. The areas of training are Induction Course for directly recruited officials at various levels, Skill upgradation courses, Modern broadcasting technologies, and Management Courses for senior technical personnel. The Institute arranges for engineering staff to obtain Master's degree in Engineering from reputed institutes like Indian Institute of Technology and Indian Institute of Science (Bangalore). It also arranges training of senior engineering personnel in management institutes like IIPA, NITIE, etc. The Institute has the responsibility to carry

out the following activities: Conducting departmental competitive examination; conducting direct recruitment examination; preparing and updating technical manuals; preparing safety manuals; preparation of technical monographs, and publication of quarterly newsletter.

The Institute conducted 130 courses during 1999-2000 and trained around 1,800 engineering personnel. Officials from broadcasting organisations of some neighbouring countries are regular participants in training programmes. Some courses have been conducted in collaboration with international institutes and agencies like ITU, AIBD, Deutsche Welle Radio Training Centre (Germany).

12 Basic Economic Data

INDIA is rich in natural resources and manpower. These resources have, however, not been exploited fully and are capable of greater utilisation. The Indian economy is still predominantly agricultural. Agriculture has acquired a remarkable resilience in the last decade. About one-third of the national income is derived from agriculture and allied activities, employing about two-third of the working force. Since 1947, the national endeavour has been to diversify the economy.

The Ministry of Statistics and Programme Implementation is the apex body in the official statistical system of the country. The Ministry is the cadre controlling authority of the Indian Statistical Service (ISS). It is also the administrative Ministry for the Indian Statistical Institute, an autonomous registered scientific society of national importance. The Ministry consists of the Central Statistical Organisation (CSO), the National Sample Survey Organisation (NSSO), the Computer Centre and the Pay and Accounts Office.

CENTRAL STATISTICAL ORGANISATION

The Central Statistical Organisation (CSO) is responsible for formulation and maintenance of statistical standards, work pertaining to national accounts, industrial statistics, consumer price indices for urban non-manual employees, conduct of economic census and surveys, training in official statistics, coordination of statistical activities undertaken within the country and liaisons with international agencies in statistical matters. The CSO is headed by a Director General, who is assisted by two Additional Director Generals, five Deputy Director Generals, 24 joint directors and supporting staff. The CSO is located in Delhi. A major portion of its work relating to industrial statistics is carried out in Calcutta.

NATIONAL AND PER CAPITA INCOMES

National income is defined as the sum of incomes accruing to factors of production, supplied by normal residents of the country before deduction of direct taxes. It is identically equal to net national product at factor cost. Table 12.1 gives estimates of national and per capita incomes at current and 1993-94 prices, while table 12.2 gives relationship of national income and other aggregates at current prices. Table 12.3 gives performance of the public sector and table 12.4 gives private final consumption expenditure, net domestic saving and capital formation since 1993-94.

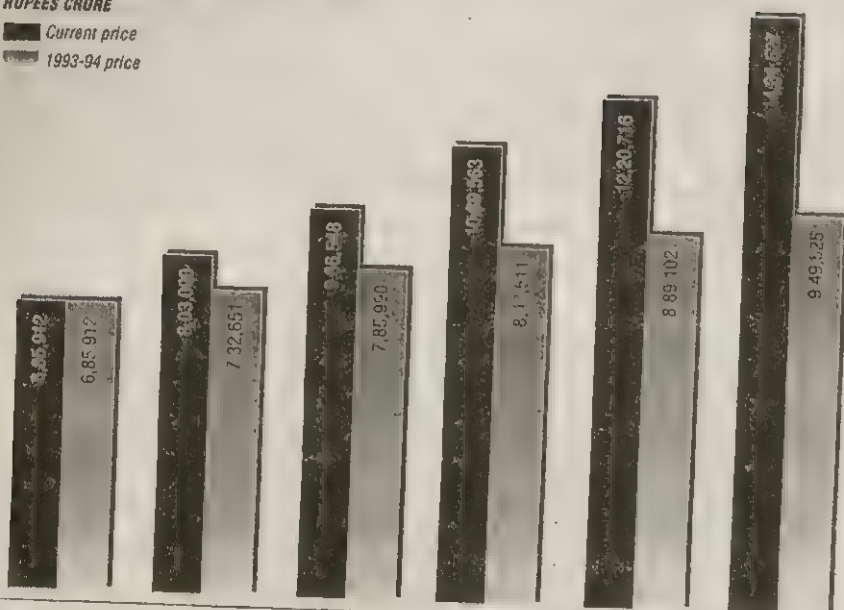
CATEGORIES OF WORKERS

For the 1991 census, the population was divided into main workers (classified into nine broad industrial categories), marginal workers and non-workers. Data released so far shows total workers sub-divided into main workers and

NATIONAL INCOME

RUPEES CRORE

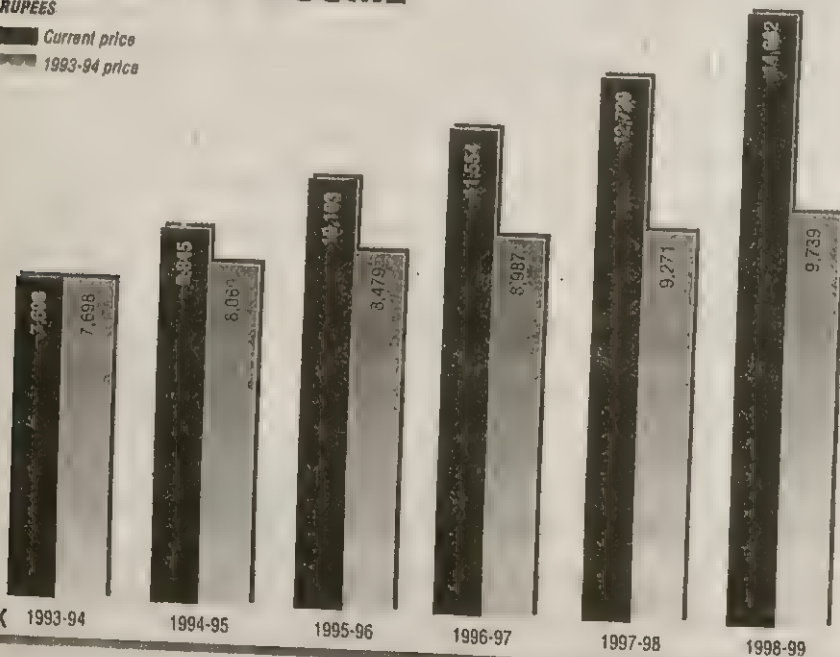
■ Current price
■ 1993-94 price



PER CAPITA INCOME

RUPEES

■ Current price
■ 1993-94 price



KBK 1993-94

1994-95

1995-96

1996-97

1997-98

1998-99

marginal workers and the distribution of main workers in nine categories in rural and urban areas as on 1 March 1991. These are presented in table 12.5. Employment in the organised sector has been shown in table 12.6.

UNEMPLOYMENT

The number of persons on the live register of the employment exchanges gives an idea of the trend of unemployment subject to certain limitations. Employment exchanges cover mainly urban areas. Not all the unemployed register their names in exchanges. Further, some already employed get registered for better employment. Table 12.7 gives registrations, vacancies, placements and job seekers on the 'live register' for the period 1986-1999.

NATIONAL SAMPLE SURVEY ORGANISATION

The National Sample Survey (NSS) was set up in 1950 with a programme of conducting large-scale surveys to provide data for estimation of national income and related aggregates, especially relating to unorganised sectors of the economy, and for planning and policy formulation. It was reorganised in 1970 by bringing together all the aspects of survey work into a single unified agency, known as the National Sample Survey Organisation (NSSO) under the Department of Statistics. The activities of NSSO are guided by a governing council with the requisite independence and autonomy in the matter of collection, processing and publication of NSS data. In addition to a non-official Chairman, the governing council consists of five academicians, six data users in Central and State governments and six functionaries of the Ministry of Statistics, including the DG & Chief Executive Officer of NSSO, who is the Member-Secretary of the Council.

The NSSO is headed by the DG & Chief Executive Officer, who is responsible for conducting and supervising all activities of the organisation. It has four main divisions, namely, (i) Survey Design and Research Division; (ii) Field Operations Division; (iii) Data Processing Division and (iv) Coordination and Publication Division. Each division is headed by a DDG, who is assisted by an adequate number of directors, joint directors, supporting officers and staff.

The Survey Design and Research Division of the NSSO has its headquarters at Calcutta; Field Operations Division has its headquarters at Delhi with a network of six Zonal Training Centres located at Lucknow, Calcutta, Nagpur, Bangalore, Jaipur and Guwahati, 45 regional and 121 sub-regional offices spread throughout the country. The Data Processing Division with its headquarters at Calcutta functions through the Data Processing Centres located at Delhi, Giridih, Nagpur, Calcutta, Ahmadabad and Bangalore.

The subject coverage of the socio-economic surveys conforms to a well-defined cycle of the surveys extending over a period of 10 years. Survey on consumer expenditure, employment and unemployment, manufacturing establishments and enterprises, trading establishments and enterprises in the

unorganised sectors are repeated once in five years, while subjects like land holdings, livestock holdings, debt and investment, social consumption are covered once in 10 years. Thus, out of a cycle of 10 years, pre-assigned subjects are allocated for seven years while three years are kept as open Rounds (two full-year rounds and two half-year rounds) to cover special topics of current interest to meet the demand of the data users. An annual survey of consumer expenditure has been introduced since the 42nd Round (July 1986-June 1987) with a relatively smaller size of the one-fifth of the usual quinquennial round. From the 45th Round (July 1989-June 1990), the annual survey on consumer expenditure has been extended to cover employment and unemployment as well.

The 56th round survey of NSS (July 2000-June 2001) is planned to be the survey on Non-directory Manufacturing Establishments and Own Account Manufacturing enterprises, consumer expenditure and employment and unemployment.

The 55th round survey of NSS (July 1999-June 2000) is on Consumer Expenditure, Employment and Unemployment. The subjects on informal sector are also being tried in the 55th round on a pilot basis. The survey will be conducted in about 10,400 First Stage Unit (FSU) (urban and rural taken together) in the Central sample. The State Governments will also participate in the survey on equal matching basis. The surveys conducted during the last six rounds are : (i) 49th round (January - June 1993); Housing conditions and Migration, particulars of Slums and Consumer Expenditure; (ii) 50th round (July 1993 - June 1994); Consumer Expenditure and Employment and Unemployment (Fifth quinquennial survey); (iii) 51st round (July 1994 - June 1995); Unorganised Manufacturing Sector and Consumer Expenditure; (iv) 52nd round (July 1995 - June 1996); Survey on Health Care and participation in Education and Consumer Expenditure; (v) 53rd round (January - December 1997); Survey on Non-Directory Trade Establishment and own Account Enterprises, Consumer Expenditure and (vi) Common Property Resources, Sanitation, Hygiene and Services with usual inquiry on Consumer Expenditure during the 54th round (January - December 1998).

Survey results are brought out in the form of reports. In all, 260 old reports are available in printed form, and 290 reports in mimeographed form. These reports are on the subjects of enquiry covered up to the 54th round (January-June 1998). NSSO's quarterly journal *Sarvekshana* started from July 1977 presents most of the results of NSS as and when they are ready for publication. Analytical articles based on results are also included in the journals.

The reports based on surveys up to the 54th round (January- June 1998) have been released. NSSO has started the system of selling these reports through its Survey Design and Research Division, Calcutta. NSSO also sells the household/unit-level data to the users on magnetic media (Floppies, CD-

TABLE 12.1: NATIONAL AND PER CAPITA INCOME AT FACTOR COST

Item	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
Net National Product at Factor Cost (Rs crore)						
at current prices	6,85,912	8,03,090	9,36,548	10,89,563	12,20,716	14,31,527
at 1993-94 prices	6,85,912	7,32,651	7,85,990	8,47,511	8,89,102	9,49,525
Per Capita Net National Product (Rs)						
at current prices	7,698	8,845	10,103	11,554	12,729	14,682
at 1993-94 prices	7,698	8,069	8,479	8,987	9,271	9,739
Index number of Net National Product with 1993-94 as base at current prices	100	117	137	159	178	209
at 1993-94 prices	100	107	115	124	130	138
Index Number of per capita						
Net National Product with 1993-94 as base at current prices	100	115	131	150	165	191
at 1993-94 prices	100	105	110	117	120	127
Gross National Product at Factor Cost (Rs crore)						
at current prices	7,69,265	9,01,111	10,53,736	12,24,208	13,71,241	15,97,416
at 1993-94 prices	7,69,265	8,22,649	8,84,388	9,53,667	10,02,500	10,70,665
Index number of						
Gross National Product with 1993-94 as base at current prices	100	117	137	159	178	208
at 1993-94 prices	100	107	115	124	130	139

TABLE 12.2 : RELATIONSHIP OF NATIONAL INCOME AND OTHER AGGREGATES
(at current prices)

Item	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
a. National income (Net national product at factor cost)	6,85,912	8,03,090	9,36,548	10,89,563	12,20,716	14,31,527
b. Indirect taxes	1,01,126	1,21,067	1,42,400	1,62,622	1,71,130	1,94,351
c. Subsidies	23,251	25,355	27,659	37,960	39,930	44,125
d. Net national product at market prices (a+b-c)	7,63,787	8,98,802	10,51,289	12,14,225	13,51,916	15,81,753
e. Other current transfers from rest of the world	16,514	25,416	22,112	43,968	43,764	43,241
f. Net national disposable income (d+e)	7,80,301	9,24,218	10,73,401	12,58,193	13,95,680	16,24,994
g. Net factor income from abroad	-12,080	-13,083	-13,484	-13,082	-13,205	-14,967
h. Net domestic product at market prices (d+g-f-g-e)	7,75,867	9,11,885	10,64,773	12,27,307	13,65,121	15,96,720
i. Net domestic product at factor cost (h-b-c)	6,97,992	8,16,173	9,50,032	11,02,645	12,33,921	14,46,494
j. Income from entrepreneurship and property accruing to govt administrative departments ¹	11,037	12,494	12,562	15,830	13,198	24,287
k. Saving of non-departmental enterprises	1,836	6,838	8,391	11,536	16,624	24,117
l. Income accruing to private sector from domestic product (j+k)	6,85,119	7,96,841	9,29,079	10,75,279	12,04,099	13,98,090
m. Interest on public debt	35,783	46,180	49,354	58,241	64,962	75,420
n. Current transfers from government administrative departments	22,541	29,425	33,417	34,647	38,755	46,910
o. Private income (l+m+n-e-g)	7,47,877	8,84,779	10,20,478	11,99,053	13,38,375	15,48,694
p. Saving of private corporate sector net of retained earnings of foreign companies	12,838	14,131	31,826	28,085	25,911	21,963
q. Corporation tax	10,060	13,822	16,487	18,567	20,016	27,050
r. Personal income (o-p-q)	7,24,979	8,56,826	9,72,165	11,52,401	12,92,448	14,99,681
s. Direct taxes paid by house-hold	12,925	16,384	20,907	24,344	40,231	32,157
t. Miscellaneous receipts of government administrative departments ²	4,362	8,206	7,179	5,425	6,035	4,960
u. Personal disposable income ²	7,07,692	8,32,236	9,44,079	11,22,632	12,46,182	14,62,564

¹ Includes savings of railways and communication² Separate data on fees, fines, etc., paid by producers are not available and to that extent personal disposable income is underestimated.

TABLE 12.3 : PERFORMANCE OF PUBLIC SECTOR
(at current prices)

Item	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
1. Gross Domestic Product						
Public	7,81,345	9,14,194	10,67,220	12,37,290	13,84,446	16,12,383
Private	2,02,512	2,33,983	2,69,353	2,96,714	3,50,470	4,00,238
	5,78,833	6,80,211	7,97,867	9,40,576	10,33,976	12,12,145
2. Gross Domestic Saving						
Public	1,93,621	2,52,080	3,00,956	3,17,567	3,74,415	3,93,601
Private	5,445	16,842	24,028	22,958	21,079	572
	1,88,176	2,35,238	2,76,928	2,94,609	3,53,336	3,93,029
3. Gross Domestic Capital Formation Unadjusted						
Public	1,82,619	2,37,812	3,13,217	2,98,069	3,53,999	3,84,518
Private	70,834	88,452	90,310	95,410	1,01,108	1,16,162
	1,11,785	1,49,360	2,22,907	2,02,659	2,52,891	2,68,356
4. Final Consumption expenditure						
Public	6,75,127	7,69,665	8,87,373	10,45,182	11,49,206	13,37,696
Private	97,725	1,08,630	1,28,716	1,45,607	1,71,522	2,16,356
	5,77,402	6,61,035	7,58,657	8,99,575	9,77,684	11,21,340
Percentage Share of Public Sector						
1. Gross Domestic Product	25.9	25.6	25.2	24.0	25.3	24.8
2. Gross Domestic Saving	2.8	6.7	8.0	7.2	5.6	0.1
3. Gross Domestic Capital Formation	38.8	37.2	28.8	32.0	28.6	30.2
4. Final Consumption Expenditure	14.5	14.1	14.5	13.9	14.9	16.2

TABLE 12.4 : PRIVATE CONSUMPTION, SAVING AND CAPITAL FORMATION

Year	Private final consumption Expenditure in domestic market (Rs crore)		Per capita private final consumption expenditure domestic market (Rs)		Net domestic saving (Rs crore)		Rate of net saving (per cent)		Net domestic capital (Rs crore)		Rate of capital formation (per cent)	
	at Current prices	at 1993-94 prices	at Current prices	at 1993-94 prices	at Current prices	at 1993-94 prices	at Current prices	at 1993-94 prices	at Current Prices	at 1993-94 prices	at Current prices	at 1993-94 prices
1993-94	5,77,402	5,77,402	6,480	6,480	1,10,268	6,480	14.2	1,15,059	1,15,059	14.8	14.8	14.8
1994-95	6,61,035	6,06,938	7,280	6,684	1,54,052	6,684	16.9	1,65,952	1,52,115	18.2	18.3	18.3
1995-96	7,58,657	6,46,604	8,184	6,975	1,83,768	6,975	17.3	2,04,548	1,70,821	19.2	19.1	19.1
1996-97	8,99,575	7,04,986	9,540	7,476	1,82,922	7,476	14.9	2,00,660	1,57,727	16.3	16.5	16.5
1997-98	9,77,684	7,23,432	10,195	7,544	2,23,890	7,544	16.4	2,46,192	1,85,170	18.0	18.6	18.6
1998-99	11,21,340	7,60,354	11,501	7,799	2,27,712	7,799	14.3	2,45,800	1,76,378	15.4	16.6	16.6

ROMs, etc.). The data up to the 53rd round is available for sale. NSSO has also brought out a priced publication 'Counting the Poor' as a *Sarvekshana*

TABLE 12.5 : POPULATION BY CATEGORY OF WORKERS

	(In crore)		
	Rural	Urban	Total
1991 Census			
Total Population	62.28	21.58	83.86
Total Workers ¹	24.90	6.51	31.41
Marginal Workers	2.67	0.15	2.82
Main Workers	22.23	6.36	28.59
(i) Cultivators	10.76	0.31	11.07
(ii) Agricultural labourers	7.03	0.43	7.46
(iii) Livestock, forestry, etc.	0.49	0.11	0.60
(iv) Mining and quarrying	0.10	0.07	0.18
(v) Manufacturing, processing, servicing and repairs :			
(a) In household industry	0.48	0.20	0.68
(b) Other than household industry	0.79	1.40	2.19
(vi) Constructions	0.23	0.32	0.55
(vii) Trade and commerce	0.73	1.40	2.13
(viii) Transport, storage and communications	0.27	0.53	0.80
(ix) Other services	1.33	1.60	2.93

¹ The figures exclude Jammu and Kashmir where census has not been conducted.

analytical report and 'Changing Pattern of Consumption in India and Selected States' as a *Sarvekshana* analytical report No. 2.

The NSSO conducts annual surveys of industries under statutory provisions of the Collection of Statistics Act, 1953 (Central Rules, 1959), covering all factories registered under Section 2m (i) and 2m(ii) of the Factories Act, 1948, electricity undertakings registered with the Central Electricity Authority, and *bidi* and cigar units registered under the *Bidi* and Cigar Workers (Conditions of Employment) Act, 1966.

The NSSO also provides technical guidance to states in the field of agricultural statistics for conducting crop estimation surveys and keeps a continuous watch on the quality of crop statistics collected by the state authorities. Up to March 2000 for 1999-2000 checking of area enumeration was completed in 1,270, 4,931, 3,633 and 208 villages during early *kharif*, *kharif*, *rabi* and summer respectively, page totaling of *khasra* Register was completed in 535, 3,411, 1,766 and 160 villages during early *kharif*, *kharif*, *rabi* and summer respectively and 11,996 crop cutting experiments were supervised.

The NSSO regularly collects retail rural prices data on monthly basis from shops/outlets in selected markets located in sample villages in respect of selected essential items. Data on rural retail prices of some selected 129 essential items from 419 villages based on old series have been replaced by a new series of data in respect of 260 items from 603 villages with effect from January 1994 for compilation of Consumer Price Index number for Agricultural Labourers by the Labour Bureau. These index numbers are published in the monthly publication, *Indian Labour Journal* of the Labour Bureau.

NSSO conducts Urban Frame Survey (UFS) for providing sampling frame of first stage units in the urban sector. It is carried out once in every five years, thereby providing for updating of the frame twice in a 10-years span. The field work of the sixth phase (1997-2002) of the UFS commenced from July 1997 and is currently in progress; work in respect of 1,93,347 blocks has been updated in 1,394 towns as against the target of 3.5 lakh blocks distributed over 4,674 towns comprising urban agglomerations and their constituent towns. Considering the potentialities and usefulness of the records of UFS, a programme of commercialisation was started in 1988 and an amount of Rs 9,59,000 has been realised till September 1999.

As part of modernisation efforts, Palm Top computers were introduced on pilot basis for collection of data directly in the computer readable media and field-level itself in the state of Haryana during NSS 52nd round survey and this study was extended to the states of Orissa and Maharashtra.

PRICES

The new series of index numbers of wholesale prices (base 1981-82=100) was introduced in July 1989. These series have 447 distinct commodities as against 360 commodities in the old series (base 1970-71=100). The number of price quotations has also increased from 1,295 in the earlier series to 2,371 in the new series.

Table 12.8 gives index numbers of wholesale prices (1981-82 =100) for the period 1985-86 to 1998-99 for all commodities and for selected groups/sub-groups of three major groups, namely : (i) primary articles; (ii) fuel, power, light, lubricants; and (iii) manufactured products.

CONSUMER PRICES

Table 12.9 gives consumer price index numbers for industrial workers for the period 1985-86 to 1999-2000 and table 12.10 gives consumer price index numbers for urban non-manual employees for the period 1985-86 to 1999-2000 at the all India level and some selected centres.

ECONOMIC CENSUS AND SURVEYS

To bridge the data gaps in the unorganised sectors of non-agricultural economy the Central Statistical Organisation (CSO) conducted the first Economic Census non-agricultural establishments in 1977. The economic

TABLE 12.6 : EMPLOYMENT IN ORGANISED SECTOR

	(in lakh)											
	March 1986	March 1987	March 1988	March 1989	March 1990	March 1991	March 1992	March 1993	March 1994	March 1995	March 1996	March 1997
Public Sector												
Central Government	33.46	33.50	33.8	33.89	33.97	34.10	34.28	33.83	33.92	33.95	33.66	32.95
State Government	64.73	66.66	67.8	68.90	69.79	71.13	71.90	72.93	73.37	73.55	74.14	74.85
Quasi Government	56.79	57.95	57.95	59.48	61.73	62.22	63.93	64.90	65.14	65.20	64.58	65.35
Local Bodies	22.14	22.11	22.38	22.23	22.23	23.13	21.98	21.60	22.02	21.97	21.92	22.44
Private Sector												
(non-agriculture)												
Large establishments												
(employing 25 or more workers)	65.47	65.32	65.44	66.06	67.11	67.83	69.56	69.46	69.98	71.18	75.50	77.06
Smaller establishments												
(employing 10 to 24 workers)	8.25	8.31	8.47	8.67	8.71	8.92	8.90	9.04	9.32	9.40	9.61	9.79

census was aimed at providing basic information on distribution of non-agricultural enterprises and to provide a frame for follow-up surveys for collection of detailed information about the structure of enterprises, investment, loans, input, output, employment, contribution to national economy, etc. The first Economic Census was followed by two sample surveys—one in 1978-79 relating to unorganised manufacturing and the second in 1979-80 devoted to trade, transport, hotels and restaurants, storage and warehousing and services.

The second Economic Census was conducted in 1980 in the country except Assam during the house-listing operations of 1981 Population Census with increased scope and coverage. It covered all enterprises (establishments and own account enterprises) in the non-agricultural and agricultural economic activities excluding crop production and plantation. Based on the information

TABLE 12.7: REGISTRATIONS, VACANCIES NOTIFIED, PLACEMENTS AND NUMBER OF JOB-SEEKERS (LIVE REGISTER) 1986-1999 (JANUARY-DECEMBER)

Year	Number of Employment Exchanges ¹	Registrations	Vacancies notified	Placements	Live Register at the end of year	Percentage increase in Live Register over previous year
(IN THOUSANDS)						
1986	821	5,535.4	623.4	351.3	30,131.2	14.7
1987	835	6,011.7	600.9	334.4	30,247.3	0.4
1988	840	5,963.2	543.3	328.5	30,050.2	(-)0.7
1989	849	6,575.8	600.2	289.2	32,776.2	9.1
1990	851	6,540.6	490.9	264.5	34,631.8	5.7
1991	854	6,235.9	458.6	253.0	36,299.7	4.8
1992	860	5,300.6	419.6	238.7	36,758.4	1.3
1993	887	5,532.2	384.7	231.4	36,275.5	(-)1.3
1994	891	5,927.3	396.4	204.9	36,691.5	1.1
1995	895	5,858.1	385.7	214.9	36,742.3	0.1
1996	914	5,872.4	423.9	233.0	37,429.6	1.9
1997	934	6,322.0	393.0	275.0	39,139.9	4.6
1998	945	5,852.0	358.8	233.3	40,089.6	2.4
1999	955	5,966.0	-	221	40,371.0	0.7

Note: Total may not tally due to rounding off.

¹ Including University Employment Information and Guidance Bureaux.

Source: DGE&T

from this Census, three follow-up surveys were carried out, first in 1984-85 on hotels and restaurants, transport, storage and warehousing and services;

second in 1984-85 on unorganised manufacturing and third in 1985-86 on wholesale and retail trade. The sampling frame of 1980 Economic Census was updated during 1987-88 in 64 towns. On the basis of the Economic Census 1980 and updated frame, four follow-up sample surveys were conducted. First in 1988-89 on hotels, restaurants and transport, second in 1989-90 on unorganised manufacturing and third in 1990-91 on trade sector and fourth in 1991-92 on service sector.

The third Economic Census in 1990 was conducted along with the house-listing operations of 1991 Population Census in all States/Union Territories except Jammu and Kashmir. On the basis of the frame thrown up by the Economic Census 1990, three follow-up surveys have been conducted so far, covering sectors of mining and quarrying, and storage and warehousing during 1992-93, hotels, restaurants and transport during 1994 and directory trade establishments during 1996-97.

As per the results of the Economic Census 1990, there were 25 million enterprises out of which 22.7 million were in the non-agricultural sector. The total number of persons usually working were 72.1 million. Of these 40.2 million were hired workers. A total of 17.7 million enterprises operated without any hired labour on a regular basis and were mainly run by the household members themselves.

TABLE 12.9 : CONSUMER PRICE INDEX NUMBER FOR
INDUSTRIAL WORKERS

Year	Mumbai	Ahmadabad	Calcutta	Chennai	Kanpur	Dellu	All India All Items Food	
Linking Factor	5.12	4.78	4.74	5.05	4.69	4.97	4.93	4.98
1985-86	654	599	610	630	614	648	620	638
1986-87	717	657	671	681	672	707	674	700
1987-88	791	724	714	756	725	788	736	767
1988-89	856 ¹	763 ¹	783 ¹	802 ¹	763 ¹	852 ¹	786 ¹	820 ¹
	171 ²	163 ²	172 ²	167 ²	172 ²	177 ²	166 ²	172 ²
1989-90	179	171	178	172	178	182	173	177
1990-91	201	196	203	189	202	201	193	199
1991-92	234	225	223	216	228	225	219	230
1992-93	260	242	241	243	245	253	240	254
1993-94	279	257	264	264	262	278	258	272
1994-95	314	285	286	297	283	306	284	304
1995-96	346	309	319	336	313	331	313	337
1996-97	372	343	347	367	337	356	342	369

1997-98	412	363	369	390	360	392	366	388
1998-99	461	409	427	432	420	461	414	445
1999-2000	474	428	439	452	430	486	428	446

¹ Average based on six months indices only-April September 1988 on 1960 base.

² Average based on six months indices only-October 1988 to March 1989 on 1982 base.

Note : Old series (1960-100) has been replaced by the New Series (1982-100) from October 1988 index. Linking factors between 1960 series and 1982 series are operative from October 1988 index.

Source : Labour Bureau, Shimla

The fourth Economic Census was conducted during 1998-99 in all States/UTs. It has been de-linked from the population census so as to build up time series with shorter interval. The field work of fourth Economic Census has since been completed and provisional results based on quick tabulation

TABLE 12.10 : CONSUMER PRICE INDEX NUMBER
FOR URBAN NON-MANUAL EMPLOYEES
(Base 1960-100)

Year	Mumbai	Calcutta	Chennai	Delhi/New Delhi	All-India
1985-86	568	481	611	551	568
1986-87	612	530	671	597	613
1987-88 ¹	666	562	736	645	656
1988-89 ²	130	135	141	135	136
1989-90 ²	139	146	152	143	145
1990-91 ²	154	164	168	156	161
1991-92 ²	180	181	189	177	183
1992-93 ²	204	198	212	196	202
1993-94 ²	219	212	232	211	216
1994-95 ²	239	229	259	229	237
1995-96 ²	260	251	284	247	259
1996-97 ²	285	268	311	267	283
1997-98 ²	309	286	334	288	302
1998-99 ²	339	316	368	338	337
1999-2000	353	328	386	359	352

¹ Average is based on seven indices (April 1987 to October 1987).

² A New Series of Index Numbers on Base 1984-85 = 100 was introduced from November 1987. All India Index on New Base may be converted to Old Base by multiplying the conversion factor 5.32. Conversion factors in respect of Mumbai, Calcutta, Chennai, Delhi/New Delhi are 5.38, 4.51, 5.77 and 5.08 respectively.

in respect of 18 key characteristics for all States/UTs. except Andhra Pradesh,

were approved by the Monitoring Committee for release.

As per provisional results which includes final results of Andhra Pradesh, there are 29.8 million enterprises, out of which 26.1 million pertain to non-agricultural sector. The total number of persons usually working was 80.8 million, of which 42 million are hired workers. A total of 21.2 million enterprises operated without any hired worker on a regular basis. Processing of data for detailed results is nearing completion.

13 Finance

THE Ministry of Finance is responsible for administration of finances of the Government. It is concerned with all economic and financial matters affecting the country as a whole including mobilisation of resources for development and other purposes. It regulates expenditure of the Government including transfer of resources to the states. This Ministry comprises three departments, namely, (i) Economic Affairs, (ii) Expenditure and (iii) Revenue.

ECONOMIC AFFAIRS

The Department of Economic Affairs consists of eight main divisions, namely, (i) Economic; (ii) Banking; (iii) Insurance; (iv) Budget; (v) Investment; (vi) External Finance; (vii) Fund Bank and (viii) Currency and Coinage. The Department *inter alia* monitors current economic trends and advises the Government on all matters of internal and external economic management including working of commercial banks, term-lending institutions, investment regulations, external assistance, etc. Preparation of the Budget of the Union of India as well as the state governments and union territory administrations with legislature when under the President's rule and their presentation to the Parliament is also the responsibility of this Department.

PUBLIC FINANCE

Power to raise and disburse public funds has been divided under the Constitution between the Union and the state governments. Sources of revenue for Union and states are, by and large, mutually exclusive, if shareable taxes and duties between them are excluded. The Constitution provides that: (i) no tax can be levied or collected except by an authority of law; (ii) no expenditure can be incurred from public funds except in the manner provided in the Constitution; and (iii) executive authorities must spend public money only in the manner sanctioned by the Parliament in case of the Union and by the state legislature in the case of a state.

All receipts and disbursements of the Union are kept under two separate headings, namely, the Consolidated Fund of India and Public Account of India. All revenues received, loans raised and money received in repayment of loans by the Union form the Consolidated Fund. No money can be withdrawn from this Fund except under the authority of an Act of Parliament. All other receipts, such as deposits, service funds and remittances go into Public Account and disbursements therefrom are not subject to the vote of Parliament. To meet unforeseen needs not provided in the Annual Appropriation Act, a Contingency Fund of India has been established under

Article 267(1) of the Constitution. The Indian Constitution provides for the establishment of a Consolidated Fund, a Public Account and a Contingency Fund for each state.

The Railways, the largest public undertaking, present their budget separately to the Parliament. Appropriations and disbursements under the Railway budget are subject to the same form of parliamentary control as other appropriations and disbursements. However, as the Railways have no separate cash balance of their own, total receipts and disbursements of the Railways are incorporated in the budget of the Union as part of the Central Budget.

SOURCES OF REVENUE

The main sources of the Union tax revenue are customs duties, Union excise duties, corporate and income taxes. Non-tax revenues largely comprise interest receipts, including interest paid by the Railways and Telecommunications, dividend and profits. The main heads of revenue in states are taxes and duties levied by the respective state governments, share of taxes levied by the Union and grants received from the Union. Property taxes, octroi and terminal taxes are the mainstay of local finance.

TRANSFER OF RESOURCES

Devolution of resources from the Union to the states is a salient feature of the system of federal finance of India. Apart from their share of taxes and duties, state governments receive statutory and other grants as well as loans for various development and non-development purposes. The total amount of resources directly transferred to the states during each Plan period is shown in table 13.1. In addition, resources are also transferred by Central government to the implementing agencies under various schemes without routing it through State budgets.

TABLE 13.1 : RESOURCES TRANSFERRED TO STATES

Period	(Rs in crore)			
	Taxes and Duties	Grants	Loans (Gross)	Total
First Plan	344	288	799	1,431
Second Plan	688	789	1,411	2,888
Third Plan	1,196	1,304	3,100	5,600
Annual Plans				
1966-67	373	419	916	1,708
1967-68	417	471	869	1,757
1968-69	492	499	891	1,882
Fourth Plan	4,562	3,831	6,708	15,101
Fifth Plan	8,268	8,198	8,978	25,444
Annual Plan				
1979-80	3,406	2,288	2,697	8,391

Sixth Plan	23,728	17,941	23,722	65,391
Seventh Plan	49,465	42,005	48,945	1,40,415
1990-91	14,534	13,202	14,476	42,212
1991-92	17,197	15,700	13,145	46,042
1992-93	20,522	17,830	13,282	51,634
1993-94	22,242	20,830	15,075	58,147
1994-95	24,840	20,047	18,234	63,121
1995-96	29,285	21,287	18,763	69,335
1996-97	35,061	23,157	23,106	81,324
1997-98	43,548	29,738	29,500	1,02,786
1998-99	39,145	25,096	39,172	1,03,953
1999-2000 (RE)	43,510	29,387	21,573	94,470
2000-2001 (BE)	52,060	40,546	21,195	1,13,801

With effect from 1 April 1999, a new system of transferring 75 per cent of the net small savings collections to States and UTs from the Public Account has been introduced.

ANNUAL BUDGET

An estimate of all anticipated receipts and expenditure of the Union for the ensuing financial year is laid before the Parliament. This is known as 'Annual Financial Statement' or 'Budget' and covers Central Government's transactions of all kinds, in and outside India, occurring during the preceding year, the year in which the statement is prepared as well as the ensuing year or the 'Budget Year' as it is known.

The presentation of Budget is followed by a general discussion on it in both the Houses of Parliament. Estimates of expenditure from the Consolidated Fund of India are placed before the Lok Sabha in the form of 'Demands of Grants'. All withdrawals of money from the Consolidated Fund are thereafter authorised by an Appropriation Act passed by the Parliament every year. Tax proposals of Budget are embodied in a Bill which is passed as the 'Finance Act' of the year. Estimates of receipts and expenditure are similarly presented by the state governments in their legislatures before the beginning of the financial year and legislative sanction for expenditure is secured through similar procedure. Budgetary position of the Union from 1992-93 onwards is shown in table 13.2.

PUBLIC DEBT

Public debt includes internal debt comprising borrowings inside the country like market loans, compensations and other bonds, treasury bills issued to the Reserve Bank of India, state governments, commercial banks and other parties as well as non-negotiable non-interest bearing rupees securities issued to the international financial institutions; and external debt comprising loans from foreign countries, international financial institutions, etc. Table 13.3 gives an analysis of public debt and "other liabilities" at the end of selected years.

The "other liabilities" include outstandings against the various small saving schemes, provident funds, securities issued to Industrial Development Bank of India, Unit Trust of India and nationalised banks, deposits under the special deposit schemes, reserve funds and deposits.

BANKING

Although some form of banking, mainly of the money-lending type has been in existence in India since ancient times, it was only over a century ago that proper banking began. The earliest institutions which undertook banking business under the British regime were agency houses which carried on banking business, in addition to their trading activities. Most of these agency houses were closed down between 1929-32. Following serious financial troubles, three presidency banks were later amalgamated into Imperial Bank of India in 1919.

The first bank of limited liability managed by Indians was Oudh Commercial Bank founded in 1881. Subsequently, the Punjab National Bank was established in 1894. *Swadeshi* movement which began in 1906 encouraged the formation of a number of commercial banks. Banking crisis during 1913-1917 and failure of 588 banks in various states during the decade ending in 1949 underlined the need for regulating and controlling commercial banks. The Banking Companies (Inspection Ordinance) was passed in January 1946 and the Banking Companies (Restriction of Branches) Act in February 1946. The Banking Companies Act was passed in February 1949 which was subsequently amended to read Banking Regulation Act.

With a view to bringing commercial banks into the mainstream of economic development with definite social obligations and objectives, the Government issued an ordinance on 19 July 1969 acquiring ownership and control of 14 major banks in the country with deposits exceeding Rs 50 crore each. Six more commercial banks were nationalised from 15 April 1980. The objectives of public sector banking system were outlined on 21 July 1969.

The three decades after nationalisation had seen a phenomenal expansion in the geographical coverage and financial spread of the banking system in the country. As certain rigidities and weaknesses were found to have developed in the system during the late eighties, the Government of India felt that these had to be addressed to enable the financial system to play its role in ushering in a more efficient and competitive economy. Accordingly, a high-level Committee on the Financial System (CFS) was set up on 14 August 1991 to examine all aspects relating to the structure, organisation, functions and procedures of the financial system. Based on the recommendations of the Committee (Chairman: Shri M. Narasimham), a comprehensive reform of the banking system was introduced in 1992-93. The reform process aimed at improving the productivity, efficiency and profitability of the banking system on one hand and providing it greater operational flexibility and functional autonomy on the other. Prudential norms relating to income recognition, asset classification and provisioning by banks, on the basis of

TABLE 13.2 : BUDGETARY POSITION

	(Rs in crore)										
	1992-93 (Actuals)	1993-94 (Actuals)	1994-95 (Actuals)	1995-96 (Actuals)	1996-97 (Actuals)	1997-98 (Actuals)	1998-99 (Actuals)	1999-2000 (RE)	2000-2001 (BE)		
1. Revenue Receipts	74,128	75,453	91,083	1,10,131	1,26,279	1,33,901	1,49,510	1,79,504	2,03,673		
2. Revenue Expenditure	92,702	1,08,169	1,22,112	1,39,860	1,58,933	1,80,350	2,17,419	2,53,036	2,81,098		
3. Revenue Deficit	18,574	32,716	31,029	29,730	32,654	46,449	67,909	73,532	77,425		
4. Capital Receipts	36,178	55,440	68,695	58,338	61,544	98,167	1,29,856	1,24,234	1,34,814		
5. Recoveries of Loans and other Receipts	8,317	6,143	11,952	7,902	7,995	9,230	16,507	15,336	23,539		
6. Borrowings and other Liabilities	27,861	49,297	56,743	50,436	53,549	88,937	1,13,349	1,08,898	1,12,275		
7. Capital Expenditure	29,916	33,684	38,627	38,415	42,074	51,718	61,947	50,702	57,389		
8. Total Receipts	1,10,306	1,30,893	1,59,778	1,68,468	1,87,823	2,32,068	2,79,366	3,03,738	3,38,487		
9. Total Expenditure	1,22,618	1,41,853	1,60,739	1,78,275	2,01,007	2,32,068	2,79,366	3,03,738	3,38,487		
10. Budgetary Deficit ¹ (9-8)	12,312	10,960	961	9,807	13,184	—	—	—	—		
11. Fiscal Deficit ² [(1+5)-9+6+10]	40,173	60,257	57,704	60,243	66,733	88,937	1,13,349	1,08,898	1,11,275		

¹ Represents borrowing through issue of 91 days Treasury Bills and draw down of cash balance

² Represents borrowing requirements of Government from all sources

TABLE 13.3 : PUBLIC DEBT AND OTHER LIABILITIES OF GOVERNMENT OF INDIA

Item	As at the end of March										(Rs in crore)	
	1991	1992	1993	1994	1995	1996	1996-97	1997-98	1998-99	1999-2000 (RE)	2000-01 (BE)	
1. Internal Debt												
(i to vii)	1,54,004	1,72,750	1,99,100	2,45,712	2,66,467	3,07,868	3,44,476	3,88,998	4,39,696	7,28,627	8,16,365	
(i) Market Loans	70,520	78,023	81,693	1,10,611	1,30,908	1,63,986	1,83,976	2,16,464	2,85,413	3,62,478	4,38,861	
(ii) Others ¹ (include spl Bearer Bonds)	2,863	5,425	10,078	10,095	10,821	5,275	12,373	50,969	48,396	55,030	57,274	
(iii) 91 days Treasury Bills	6,953	8,840	20,614	32,595	32,327	43,790	56,519	1,601	1,501	1,501	1,501	
(iv) Special Securities issued to the RBI in conversion of Treasury Bills	66,000	71,000	71,000	71,000	71,000	71,000	71,000	1,01,818	1,01,818	1,01,818	1,01,818	
(v) Special floating and other loans ²	6,566	8,415	14,669	20,365	20,365	22,771	19,562	17,100	21,522	22,227	23,078	
(vi) Other Special securities issued to RBI	1,102	1,047	1,046	1,046	1,046	1,046	1,046	1,046	1,046	1,287	1,547	
(vii) Securities against small savings	--	--	--	--	--	--	--	--	--	1,84,286	1,92,286	
2. External Debt ³												
Total Public Debt (1+2)	31,525	36,948	42,269	47,345	50,928	51,249	54,239	55,332	57,254	57,603	56,898	
3. Other Liabilities ⁴												
Total Public Debt and Other Liabilities	3,14,558	3,54,662	4,01,923	4,77,968	5,38,610	6,06,232	6,75,676	7,78,294	8,91,806	10,24,527	11,68,386	

¹ Comprises balance of expired loans, compensation and other bonds such as National Rural Development Bonds and Capital Investment Bonds. Annuity certificates are excluded.

² These represent mainly non-negotiable non-interest bearing securities issued to International Financial Institutions like International Monetary Fund, International Bank for Reconstruction and Development and Asian Development Bank.

³ At book value.

⁴ Comprises accruals under Small Savings Scheme, Provident Funds, Special Deposits of Non-Government Provident Funds and Other Reserve Funds and Deposits.

RE : Revised Estimates

BE : Budget Estimates

objective criteria, were laid down by the Reserve Bank. The introduction of capital adequacy norms in line with international standards has been another important measure of the reform process.

In the post-nationalisation era, no new private sector bank was allowed to be set up. However, in 1993, in recognition of the need to introduce greater competition which can lead to higher productivity and efficiency of the banking system, new private sector banks were allowed to be set up in the Indian banking system. These new banks had to satisfy among others, the following minimum requirements: (i) it should be registered as a public limited company; (ii) the minimum paid-up capital should be Rs 100 crore; (iii) the shares should be listed on the stock exchange; (iv) the headquarters of the bank should be listed on the stock exchange; (v) the headquarters of the bank should be preferably located in a centre which does not have the headquarters of any other bank; and (vi) the bank will be subject to prudential norms in respect of banking operations, accounting and other policies as laid down by the RBI. It will have to achieve capital adequacy of eight per cent from the very beginning.

A high-level Committee, under the Chairmanship of Shri M. Narasimham, was constituted by the Government of India in December 1997 to review the record of implementation of financial system reforms recommended by the CFS in 1991 and chart the reforms necessary in the years ahead to make the banking system stronger and better equipped to compete effectively in international economic environment. The Committee submitted its report to the Government in April 1998. Some of the recommendations of the Committee, on prudential accounting norms, particularly in the areas of Capital Adequacy Ratio, Classification of Government guaranteed advances, provisioning requirements on standard advances and more disclosures in the Balance Sheets of banks have been accepted and implemented. The other recommendations are under consideration.

RESERVE BANK OF INDIA

The Reserve Bank of India (RBI) was established under the Reserve Bank of India Act, 1934 on 1 April 1935 and nationalised on 1 January 1949. The Bank is the sole authority for issue of currency in India other than one rupee coins and subsidiary coins and notes. As the agent of the Central Government, the Reserve Bank undertakes distribution of one-rupee notes and coins, as well as small coins issued by the Government. The Bank acts as banker to the Central Government, state governments, commercial banks, state co-operative banks and some of the financial institutions. It formulates and administers monetary policy with a view to ensuring stability in prices while promoting higher production in the real sector through proper deployment of credit. RBI plays an important role in maintaining the stability of exchange value of the rupee and acts as an agent of the Government in respect of India's membership of International Monetary Fund. The Reserve Bank also performs a variety of developmental and promotional functions. These apart, the

Reserve Bank also handles the borrowing programme of the Government of India.

COMPOSITION OF BANKING SYSTEM

Commercial Banking System in India consisted of 298 scheduled banks (including foreign banks) as on the last Friday of December 1999. Over the period March 1998 to March 1999, the number of scheduled banks decreased by four. Of the scheduled commercial banks, 223 are in public sector and these account for about 82 per cent of the deposits of all scheduled commercial banks. In the public sector banking system, there are 196 regional rural banks specially set up to increase the flow of credit to small borrowers in the rural areas. These banks have specified areas of operations usually limited to two to three districts. They also undertake some other commercial banking business. The remaining 27 banks in the public sector are regular commercial banks and transact all types of commercial banking business. Some important indicators in regard to progress of commercial banking in India since 1996 is given in table 13.4.

Amongst the public sector banks, as on December 1999, the State Bank of India (SBI) group (SBI and its seven associates) is the biggest unit with 13,357 offices and deposits aggregating Rs 1,88,537 crore and advances of Rs 1,22,652 crore. In the associate banks, SBI owns either the entire or the majority of share capital. The SBI and its associate banks as a group accounts for around 32 per cent of aggregate banking business (aggregate of deposits and advances) conducted by the public sector banks and around 26.1 per cent of the aggregate business of the entire banking system. The remaining 19 banks in the public sector are those nationalised in 1969 and 1980.

DEPOSIT MOBILISATION AND DEPLOYMENT

There has been a substantial increase in the deposits of scheduled commercial banks in the post-nationalisation period. At the end of June 1969, deposits of these banks aggregated to only Rs 4,646 crore. In December 1999, this had increased to Rs 7,65,790 crore. Deposits with public sector banks were Rs 3,871 crore in June 1969. At the end of December 1999, these stood at Rs 6,29,835 crore. Deposits mobilised by the banks are utilised for : (i) loans and advances; (ii) investments in government and other approved securities in fulfilment of the liquidity stipulations; and (iii) investment in commercial paper, shares, debentures, etc., up to a stipulated ceiling.

There has been a significant increase in the investments of banks in government and other approved securities from Rs 1,361 crore in June 1969 to Rs 2,54,594 crore as at the end of March 1999. The advances of scheduled commercial banks have grown from Rs 3,599 crore in June 1969 to Rs 4,27,436 crore as at the end of December 1999. The share of priority sector advances has shown significant improvement over the years.

ADVANCES TO PRIORITY SECTOR

Extension of credit to small borrowers in the hitherto neglected sectors of the

economy has been one of the key tasks assigned to the public sector banks in the post-nationalisation period. To achieve this objective, banks have drawn up schemes to extend credit to small borrowers in sectors such as agriculture, small-scale industry, road and water transport, retail trade and small business which traditionally had very little share in the credit extended by banks. Taking into account the need to provide financial resources through bank credit to weaker sections for specific needs, consumption credit (with certain limits) has been included in priority sectors. Similarly, housing loans up to Rs five lakh per unit in rural/semi-urban areas and Rs 10 lakh per unit in urban/metropolitan areas are also classified as priority sector advances. Amount outstanding under priority-sector lending, by public sector banks during the period June 1969 to September 1999 increased from Rs 441 crore to Rs 1,11,612 crore which accounted for 44.35 per cent of their net bank credit.

CREDIT TO WEAKER SECTIONS

In order to augment credit flow to small and poor farmers, commercial banks were advised by the Reserve Bank of India to provide at least 10 per cent of their net bank credit or 25 per cent of their priority-sector advances to weaker sections comprising small and marginal farmers, landless labourers, tenant farmers and share-croppers, artisans, village and cottage industries, beneficiaries of Scheme of Urban Micro-Enterprises (SUME), the *Swarnajayanti Gram Swarozgar Yojana* (SGSY) and Scheme of Liberation and Rehabilitation of Scavengers (SLRS), beneficiaries of the Differential Rate of Interest (DRI) Scheme and scheduled castes and scheduled tribes. At the end of September 1999, the amount of outstanding advances extended by public sector banks to the weaker sections under the priority sector amounted to Rs 19,608 crore and accounted for 7.79 per cent of their net bank credit.

CREDIT FLOW TO AGRICULTURE

Banks were initially given a target of extending 15 per cent of the total advances as direct finance to the agriculture sector to be achieved by March 1985. This target was subsequently raised to 18 per cent to be achieved by March 1990. In terms of the guidelines issued by Reserve Bank of India in October 1993, both direct and indirect advances for agriculture are taken together for assessing the target of 18 per cent, with the condition that lending for indirect agriculture does not exceed one fourth of the total agriculture lending target of 18 per cent of the net bank credit. As at the end of September 1999, public sector banks had extended Rs 40,660 crore, constituting 16.16 per cent of the net bank credit, to the agriculture sector.

ADVANCES TO SC/ST BORROWERS

People belonging to the scheduled castes and scheduled tribes are recognised as the most vulnerable sections. Banks have been asked to make special efforts to assist them with adequate credit to enable them to undertake self-employment ventures to acquire income generating capital assets so as to improve their standard of living. At the end of March 1999, the total outstanding loan extended to scheduled castes/scheduled tribes by public

sector banks was Rs 7,410 crore in 87.58 lakh borrowal accounts.

DIFFERENTIAL RATE OF INTEREST SCHEME

Under the Differential Rate of Interest (DRI) Scheme, introduced in 1972, public sector banks are required to fulfil the target of lending of at least one per cent of the total advances as at the end of the preceding year to the weakest of the weak sections of the society at the interest of four per cent per annum. The scheme covers poor borrowers having an annual family income of not more than Rs 6,400 in rural areas and Rs 7,200 in other areas and not having more than 2.5 acres of unirrigated or one acre of irrigated land. They are given credit support of Rs 6,500 as term loan and working capital loan for productive ventures. The public sector banks had an outstanding of DRI credit amounting to Rs 507.97 crore as at the end of March 1999.

SWARNAJAYANTI GRAM SWAROZGAR YOJANA

Swarnajayanti Gram Swarozgar Yojana (SGSY) has replaced IRDP and its allied schemes, viz., Training of Rural Youth for Self Employment (TRYSEM), Development of Women and Children in Rural Areas (DWCRA), Supply of Improved Toolkits to Rural Artisans (SITRA), *Ganga Kalyan Yojana* (GKY) and Million Wells Scheme (MWS) with effect from April 1999.

The scheme aims at establishing a large number of micro enterprises in the rural areas of the country. Its objective is to bring every assisted family above the poverty-line in three years by providing them income generating assets through a mix of bank credit and government subsidy. The monthly income from activity to be undertaken should not be less than Rs 2,000-net of repayment to the bank at least in the third year.

SGSY is a holistic programme covering all aspects of self-employment such as organisation of poor into Self Help Groups, training, credit, technology, infrastructure and marketing. The scheme will be funded on 75 : 25 basis by the Centre and the States and will be implemented by DRDAs through *Panchayat Samitis*.

SWARNA JAYANTI SHAHARI ROZGAR YOJANA

The Swarna Jayanti Shahari Rozgar Yojana (SJSRY) is in operation from 1 December 1997 in all urban and semi-urban towns of India. Among other components, the scheme has two sub-schemes where bank credit is involved, namely, Urban Self Employment Programme (USEP) and Development of Women and Children in Urban Areas (DWCUA). The beneficiaries under the scheme are identified by the urban local bodies on the basis of house to house survey. Under the scheme, women are to be assisted to the extent of not less than 30 per cent, disabled at three per cent and SCs/STs at least to the extent of the proportion of their strength in the local population. The scheme is funded on a 75 : 25 basis between the Central and the State Governments. Under USEP, unemployed and under-employed urban youth (educated up to the ninth standard) whose annual family income is below poverty-line and

who have been included in the ULB list, are to be assisted with bank loans. Projects costing up to Rs 50,000 are to be financed by banks. Subsidy would be provided by the Government at 15 per cent of the project cost subject to a maximum of Rs 7,500. The borrower has to bring in five per cent of the project cost as margin money. Partnerships are also permitted. Under DWCUA, women beneficiaries may take up self employment ventures in groups. DWCUA groups should consist of at least 10 urban poor women. The group is entitled to a subsidy of Rs 1,25,000 or 50 per cent of the project cost whichever is less. In addition, the group may set itself up as a thrift and credit society. The repayment schedule may range from three to seven years after initial moratorium of six to 18 months as decided by the banks. During 1998-99 banks sanctioned loans amounting to Rs 18,901.28 lakh in favour of 73,270 persons while disbursement amounted to Rs 9,987.19 lakh to 41,755 persons. During 1999-2000 (provisional) loans amounting to Rs 12,112.63 lakh were sanctioned to 47,844 persons while the disbursement was Rs 7,535.97 lakh to 30,429 persons.

PRIME MINISTER'S ROZGAR YOJANA

Prime Minister's Rozgar Yojana (PMRY) for educated unemployed youth was launched on 2 October 1993. The objective of the scheme is to provide sustained employment to about 10 lakh educated unemployed urban youth in micro-enterprises during the Eighth Five Year Plan. These enterprises cover manufacturing, service and business ventures. The scheme was implemented in urban areas during 1993-94 and from 1 April 1994, throughout the country. Self-Employment Scheme for Educated Unemployed Youth (SEEUY) has been subsumed with PMRY. During 1999-2000, banks sanctioned loans amounting to Rs 1,587.23 crore in 2.44 lakh accounts, while disbursements amounted to Rs 807.56 crore in 1.35 lakh accounts (data provisional).

REGIONAL RURAL BANKS

Regional Rural Banks (RRBs) were set up to take the banking services to the doorsteps of rural masses especially in remote rural areas with no access to banking services. These banks were originally intended to provide institutional credit to those weaker sections of the society called 'target groups' at a concessional rate of interest. The banks were also intended to mobilise and channelise rural savings for supporting productive activities in the rural areas. However, with effect from 22 March 1997, the RRBs were allowed to lend outside the target group by classifying their advances into 'priority sector' and 'others'. Similarly, the interest rates on term deposits offered and interest rates on loans charged by RRBs have also been freed. The loans and advances of RRBs stood at Rs 12,508 crore as at the end of March 2000. Rs 29,262 crore was mobilised as deposits by RRBs till that date. Consequent upon the permission of the Reserve Bank of India to determine their own lending rate with effect from 26 August 1996, most of the RRBs have been charging interest rates on loans varying between 14 and 18 per cent per annum. RRBs which comply with certain prescribed conditions are also permitted to open and maintain non-resident accounts in rupees.

INDUSTRIAL DEVELOPMENT BANK OF INDIA

Industrial Development Bank of India (IDBI), established under the Industrial Development Bank of India Act, 1964, is the principal financial institution for providing credit and other facilities for development of industry, co-ordinating working of institutions engaged in financing, promoting or developing industries and assisting the development of such institutions. IDBI has been providing direct financial assistance to large industrial concerns and also helping small and medium industrial concerns through banks and state-level financial institutions. Aggregate assistance (provisional) sanctioned during 1999-2000 amounted to Rs 28,307.7 crore registering a rise of 10.7 per cent over the preceding year. Disbursements amounted to Rs 17,059.3 crore in 1999-2000.

EXPORT-IMPORT BANK OF INDIA

Export-Import Bank of India (EXIM Bank) was established on 1 January 1982 for financing, facilitating and promoting foreign trade in India. During the year ended 31 March 1999, EXIM Bank sanctioned loans of Rs 2,831.8 crore while disbursements amounted to Rs 1,729.6 crore. Net profit (before tax) of the Bank for the period 1999-2000 on account of General Fund amounted to Rs 227 crore.

ICICI LIMITED

Industrial Credit and Investment Corporation of India (ICICI) Limited was established in 1955 as public limited company to encourage and assist industrial units in the country. Its objectives, *inter-alia*, include providing assistance in the creation, expansion and modernisation of industrial enterprises, encouraging and promoting participation of private capital both internal and external, in such enterprises, encouraging and promoting industrial development and helping development of capital markets. It provides term loans in Indian and foreign currencies, underwrites issues of shares and debentures, makes direct subscriptions to these issues and guarantees payment of credit made by others. The assistance sanctioned and disbursed by ICICI during 1999-2000 aggregated Rs 44,478.8 crore and Rs 25,836.3 crore respectively, registering a growth of 30 per cent and 34.3 per cent respectively over the previous year.

NATIONAL HOUSING BANK

National Housing Bank (NHB), the apex institution of housing finance in India was set up as wholly-owned subsidiary of the Reserve Bank of India (RBI) under the National Housing Bank Act, 1987. The statutory mandate of NHB covers promotional, developmental and regulatory aspects of housing finance with focus on developing a sound housing finance system. It started its operation from July 1988. The authorised share capital of NHB is Rs 500 crore. As on 30 June 1999, the paid-up capital of NHB stood at Rs 350 crore and the reserves and surplus were Rs 481.30 crore.

A major activity of NHB includes extending financial assistance to various eligible institutions in the housing sector by way of (a) refinance and (b) direct finance.

(a) Refinance : NHB, extends refinance assistance to the various eligible primary lending institutions viz., Scheduled Banks, Housing Finance Companies (HFCs) and Co-operative Sector Institutions. The refinance assistance is extended to the primary lending institutions in respect of housing loans provided by these institutions for individuals as also for public and private agencies towards land development and shelter projects. The total refinance assistance extended by NHB to all eligible primary lending institutions was Rs 587.48 crore in 1999-2000 (Till 1999-March 2000). The cumulative refinance assistance provided by NHB to the primary lending institutions stood at Rs 4,961.48 crore up to 31 March 2000. The total number of HFCs approved for availing refinance from NHB on 31 March 2000 stood at 29.

(b) Direct Finance : NHB provides direct finance for integrated land development and shelter projects of public agencies in respect of Land Development and Shelter Projects (LDSPs), Slum Redevelopment Projects (SRPs) and Housing Infrastructure Projects (HIPs) where the projects/agencies are able to comply with the financial discipline norms laid down by NHB. Under the direct financing window, NHB so far approved 16 LDSPs and HIPs with project cost of Rs 551.95 crore and loan component of Rs 228.63 crore. An amount of Rs 61.86 crore has been disbursed so far including Rs 40.46 crore during the current year.

During the year NHB also revised the interest rates on its refinance schemes. The ceiling for eligible loan for the purpose of refinance in respect of Urban Co-operative Banks was enhanced from Rs three lakh to Rs five lakh.

NHB has issued directions to the HFCs in respect of matters relating to acceptance of deposits. The regulatory role of NHB is supported through an on-going system of on-site and off-site supervision. In order to ensure efficiency in the performance of the HFCs, NHB has also issued guidelines on prudential norms relating to income recognition, asset classification, provisions and credit concentration, etc.

NHB also participates in the equity of Housing Finance Companies and Building Materials Industries. Its participation till 31 March 2000, is to the extent of Rs 15.80 crore.

During the 50th year of India's independence NHB launched the Golden Jubilee Rural Housing Finance Scheme to encourage the formal sector institutions to extend loans for rural housing. The scheme is being implemented through Scheduled Banks, HFCs and Co-operative Sector Institutions. The target for 1999-2000 fixed at 1,25,000 dwelling units was successfully met. The

target for 2000-2001 is to finance 1,50,000 dwelling units. In order to ensure greater flow of resources to the housing sector, NHB is in the process of initiating measures for the introduction of mortgage backed securitisation.

HOUSING FINANCE

The overall minimum target during 1999-2000 for housing finance provided by commercial banks was raised to 3 per cent (from earlier 1.5 per cent) of their incremental deposits of the previous year or the amount of housing finance allocations fixed for the year 1998-99 whichever is higher. The individual amount of housing loans provided by commercial bank either directly or indirectly, to be eligible for inclusion under the priority sector, continues to be at Rs five lakh, except in the case of direct finance to individuals in urban/metropolitan areas where it has been revised to Rs ten lakh. Investment by banks in special bonds of NHB and HUDCO exclusively for financing of housing, irrespective of the loan size, has also been included under the priority sector advances.

SMALL INDUSTRIES DEVELOPMENT BANK OF INDIA

Small Industries Development Bank of India (SIDBI) was established as a wholly-own subsidiary of the Industrial Development Bank of India (IDBI) under the Small Industries Development Bank of India Act, 1989 as the principal finance institution for promotion, financing and development of industries in the small scale sector. SIDBI started its operations from 2 April 1990 and is engaged in providing assistance to the small-scale industrial sector in the country through other institutions like state financial corporations, commercial banks and state industrial development corporations. The financial assistance sanctioned and disbursed aggregated to Rs 10,434 crore and Rs 6,994.5 crore, respectively during 1999-2000.

NABARD

National Bank for Agriculture and Rural Development (NABARD) came into existence on 12 July 1982. It took over the functions of the erstwhile Agriculture Credit Department, Rural Planning and Credit Cell of the Reserve Bank of India and Agriculture Refinance and Development Corporation. NABARD was established for providing credit for promotion of agriculture, small-scale industries, cottage and village industries, handicrafts and other allied economic activities in rural areas with a view to promoting integrated rural development and securing prosperity of rural areas.

NABARD provides refinance to state land development banks, scheduled commercial banks (SCBs) and regional rural banks (RRBs) against the term loans sanctioned by them to the ultimate beneficiaries who can be an individual, partnership concerns, companies, state-owned corporations, etc.

Since 1995-96, NABARD has been sanctioning loans to State Governments

for completion of ongoing/for taking up new rural infrastructure projects related to major and medium irrigation, rural roads and bridges, flood protection schemes, watershed management schemes, etc., from the Rural Infrastructure Development Fund (RIDF) constituted by the Union Government with NABARD.

During 1999-2000, NABARD disbursed Rs 5,215 crore as refinance for investment purposes as against Rs 4,521 crore during the previous year. The short-term (ST) credit limits sanctioned for 1999-2000 to SCBs for Seasonal Agricultural Operations up to the end of March 2000 aggregated to Rs 6,080.54 crore as against Rs 5,959.27 crore sanctioned during the corresponding period of the previous year. Outstandings against these limits stood at Rs 4,055.85 crore as at the end of March 1999. The credit limit sanctioned during 1999-2000 included Rs 824.74 crore for Oilseed Production Programme (OPP), Rs 41.17 crore for National Pulses Development Programme (NPDP) and Rs 202.89 crore for Development of Tribal Population (DTP). ST credit limits sanctioned to RRBs for SAO for 1999-2000 aggregated Rs 1,005.57 crore up to March 2000. The outstanding NABARD refinance under all ST credit limits sanctioned to RRBs amounted to Rs 905.56 crore as at the end of March 2000. More than 81,700 Self Help Groups (SHGs) were linked to banks during 1999-2000 with a loan assistance of Rs 135.90 crore and NABARD refinance of Rs 98.07 crore. The cumulative position of SHGs linked have thus gone up to 1.147 lakh with cumulative loan assistance of Rs 192.97 crore and NABARD refinance of Rs 150.13 crore as on 31 March 2000.

INDIAN BANKS ABROAD

Ninety-five branches, including off-shore branches and mobile agencies of nine Indian commercial banks (which include eight public sector banks and one Indian private sector bank) were operating in foreign countries as on 31 March 2000. These branches are spread over 25 countries and located in major international centres like London, Singapore, Amsterdam, Bahrain, New York, Hong Kong, Tokyo, Frankfurt, Paris, etc. The largest concentration is in the United Kingdom (19) followed by Fiji Islands (9), USA (8), Singapore (6), Hong Kong and Mauritius (7 each), Sri Lanka (6), United Arab Emirates (6) and Japan (4). These branches specialise in various areas of international banking including financing of foreign trade. They cater to the needs of Indian exporters and importers and to that extent, they form an integral part of the domestic banking system. Besides these branches, Indian commercial banks are having 15 representative offices in USA, Brazil, Indonesia, Iran, Egypt, Russia, Italy, Zimbabwe, China, Uzbekistan, Philippines, Vietnam, Kazakhstan and Australia. Indian commercial banks are also having 14 wholly-owned subsidiaries and eight joint ventures in USA, Canada, Zambia, Nigeria, Uganda, Bhutan, Mauritius, Kenya and Nepal.

TABLE 13.4 : PROGRESS OF COMMERCIAL BANKING IN INDIA

S. No	Item	March 1996	March 1997	March 1998	March 1999	December 1999
1.	Commercial Banks	293	299	300	303	298
	(a) Scheduled Commercial Banks	291	297	299	302	298
	Regional Rural Banks of (a)	196	196	196	196	196
	(b) Non-Scheduled Commercial Banks	2	2	1	1	
2.	Bank Offices in India	63,026	63,550	64,218	64,939	65,408
3.	Population per office (in thousands)	15	15	15	15	15
4.	Deposits of Scheduled Commercial Banks in India (Rs crore)	4,29,003	4,99,763	5,98,485	7,14,025	7,65,790
5.	Credit of Scheduled Commercial Banks in India (Rs crore)	2,54,015	2,78,401	3,24,079	3,68,837	4,27,436
6.	Per Capita Deposits of Scheduled Commercial Banks (Rs)	4,613	5,261	6,170	7,286	N A.
7.	Per Capita Credit of Scheduled Commercial Banks (Rs)	2,719	2,931	3,356	3,763	N A.
8.	Deposits of Scheduled Commercial Banks as percentage of National Income at current prices	44.0	43.8	47.3	48.7	N A.

Including Resurgent India Bonds (Rs 17,945 crore)

Source : Banking Statistics, Basic Statistical Returns, Volume-28, March 1999

N.A.: Not Available

INSURANCE

LIFE INSURANCE CORPORATION OF INDIA

Life Insurance Corporation of India (LIC) was established on 1 September 1956 to spread the message of life insurance in the country and mobilise people's savings for nation-building activities. LIC with its central office in Mumbai and seven zonal offices at Mumbai, Calcutta, Delhi, Chennai, Hyderabad, Kanpur and Bhopal operates through 100 divisional offices in important cities and 2,048 branch offices. As on 31 March 1999, LIC had 6.28 lakh agents spread over the country. The Corporation also transacts business abroad and has offices in Fiji, Mauritius and United Kingdom. LIC is associated with joint ventures abroad in the field of insurance, namely, Ken-India Assurance Company Limited, Nairobi; United Oriental Assurance Company Limited,

Kuala Lumpur; and Life Insurance Corporation (International), E.C. Bahrain. It has also entered into an agreement with the Sun Life (UK) for marketing unit linked life insurance and pension policies in U.K.

During 1999-2000, the total new business under individual assurances was Rs 91,213.42 crore under 169.77 lakh policies. The group insurance business during the year is Rs 78,110 crore (provisional) providing cover to 212 lakh people. In addition, LIC sold 2,23,345 new individual pension policies. There were 916.37 crore individual insurance policies in force as on 31 March 1999 with Rs 4,57,435 crore of sum assured including vested bonuses thereunder. It is estimated that 27.83 per cent of insurable population stands covered as on 31 March 2000.

The Life Fund of LIC on 31 March 2000 has exceeded Rs 1,500 billion. During 1999-2000, the Corporation made payments of Rs 1,638.34 crore under death claim cases, Rs 7,628.55 crore under Maturity Claims and Rs 593.05 crore under annuities.

SOCIAL SECURITY GROUP SCHEME

A Social Security Fund (SSF) administered by the LIC was set up in 1988-89 to meet the insurance requirements of the weaker and vulnerable sections of the society. As on 31 March 2000 about 49 lakh people belonging to 24 occupational groups/areas have been covered under various social security group schemes financed from the SSF. Under these schemes people in the age group of 18-60 years are covered for a sum of Rs 5,000 on death due to natural causes, and Rs 25,000 on death/total permanent disability due to accident. The amount payable is Rs 12,500 on partial/permanent disability due to accident. While the SSF subsidises 50 per cent of the premium, the beneficiary has to pay the remaining 50 per cent.

Under Landless Agricultural Labourers Group Insurance Scheme (LALGI) in operation since 1987, the heads of the families in the age group of 18 to 60 years and not appearing as a landholder in the revenue records and not having inheritable right in agricultural land are eligible to be covered for an insurance cover of Rs 2,000 payable only on death before 60 years. Initially, it was operated by LIC on behalf of the Central Government which used to reimburse to LIC the premium payable by the beneficiaries. However, with effect from 1 April 1990 the entire premium payable by the beneficiaries is being met out of the SSF. It is estimated that about 1.2 crore landless agricultural labourers are presently covered under the scheme. During 1999-2000, 42,376 death claims were settled.

All over the country, the Integrated Rural Development Programme (IRDP) beneficiaries between the age group of 18 to 60 years are covered under a Group Life Insurance Scheme being operated by the LIC for which the entire premium is paid by the Central Government. An amount of Rs 5,000 is payable to the beneficiary in case of normal death and Rs 10,000 in case of accidental death. During 1999-2000, 3,913 claims were settled.

The Rural Group Life Insurance Scheme (RGLIS), announced on 15 August 1995, is a group insurance scheme which provides a life cover of Rs 5,000 for persons in rural areas. The premium payable is Rs 60 per year for those who enroll up to the age of 40 years and Rs 70 per year for those who enroll beyond 40 years and up to 50 years. The entry age is restricted to 20 years (minimum) and 50 years (maximum). Death occurring after 60 years are not covered. Nor is there any saving element in the Scheme. There are two types of scheme : (i) General Scheme for persons between the age 20 and 50 years where premiums are to be paid by the members in full and (ii) Subsidised Scheme—for persons between the age of 20 and 50 years who belong to a household below poverty-line. Only one member of such a household is eligible under the scheme. LIC provides incentives at the rate of Rs six for enrolment of a new member and Rs three for renewal of insurance cover on the life of an existing member in the subsequent year. From 15 August 1995 to 31 March 2000; 14,35,416 new members were enrolled for insurance cover. Among them 13,74,283 lives were under subsidised category and 61,133 lives were under General (non-subsidised) category.

JANASHREE BIMA YOJANA

The Cabinet has approved restructuring and rationalisation of the Social Security Group Scheme and Rural Group Life Insurance Scheme through introduction of a new group insurance scheme called *Janashree Bima Yojana*.

The Scheme provides for an insurance cover of Rs 20,000 on natural death. On death/total permanent disability the benefit is Rs 50,000. On partial permanent disability due to accident the benefit is Rs 25,000. The premium for the scheme is Rs 200 per member. The Central Government will bear 50 per cent premium which will be met out of Social Security Fund. The balance premium is to be borne by the member.

GENERAL INSURANCE CORPORATION OF INDIA

The general insurance industry in India was nationalised and General Insurance Corporation of India (GIC) was formed by the Central Government in November 1972. With effect from 1 January 1973 the erstwhile 107 Indian and foreign insurers which were operating in the country prior to nationalisation, were grouped into four operating companies, namely, (i) National Insurance Company Limited; (ii) New India Assurance Company Limited; (iii) Oriental Insurance Company Limited; and (iv) United India Insurance Company Limited. These four subsidiaries of GIC operate all over the country competing with one another and underwriting various classes of general insurance business except for aviation insurance of national airlines and crop insurance which are handled by the GIC. From 799 offices in 1973, the network grew to 4,166 offices as on 31 March 1999.

Besides the domestic market, the industry is presently operating in 17 countries directly through branches or agencies and in 14 countries through subsidiary and associate companies. The wholly-owned subsidiary of GIC

known as India International Insurance Private Limited set up in 1988 in Singapore has grown into a leading company in the Singapore market.

The gross premium income of the general insurance industry in India during 1998-99 was Rs 8,759 crore as against Rs 7,736 crore during 1997-98. The net premium income of the general insurance industry in India during 1998-99 was Rs 7,732 crore as against Rs 6,725 crore in 1997-98. The gross profits of the industry during 1998-99 were Rs 1,467 crore as against Rs 1,623 crore in 1997-98. Similarly, the net profits of the industry during 1998-99 were Rs 1,077 crore as against Rs 1,255 crore in 1997-98.

Personal Accident Insurance Social Security Scheme for poor families operational throughout the country, covers all the earning members in the age-group of 18-60 years whose annual income from all sources does not exceed Rs 7,200. Under the Scheme a compensation of Rs 3,000 is given to the dependent of the earning member in the event of accidental death. The Central Government bears the entire premium cost. During 1998-99, 8,128 claims of Rs 1.84 crore were settled.

Hut Insurance Scheme for Poor Families in Rural Areas provides fire insurance cover for huts and belongings of landless labourers, small farmers, artisans and other poor families in rural areas whose family income is less than Rs 4,800 per annum. Under the Scheme, compensation is provided for an amount not exceeding Rs 1,000 for a hut and Rs 500 for belongings in the hut destroyed by fire. The Central Government bears the entire premium in respect of the Scheme. During 1998-99, 35,945 claims involving Rs 3.15 crore were settled.

The Mediclaim Insurance Policy provides for reimbursement of medical expenses incurred by an individual towards hospitalisation/domiciliary hospitalisation for any illness, injury or disease contracted or sustained during the period of insurance with effect from 1 November 1999, the maximum compensation under the Scheme has been revised from Rs three lakh to Rs five lakh. The policy is open to persons between five years to 80 years.

Jan Arogya Bima Policy primarily meant for the larger segment of the population who cannot afford the high cost of medical treatment, was introduced with effect from 12 August 1996. The limit of cover per person is Rs 5,000 per annum. The premium payable is very low depending on the age of the person covered ranging from Rs 70 to Rs 140 per person per year and Rs 50 per dependent child below 25 years. The cover provides for reimbursement of medical expenses incurred by an individual towards hospitalisation/domiciliary hospitalisation for any illness, injury or disease contracted or sustained during the period of insurance.

The existing Overseas Mediclaim Policy offering emergency medical expenses cover to overseas travellers has been extended to include In-flight Personal Accident cover up to US \$ 10,000 and Loss of Passport cover up to US \$ 150 from 1 April 1997. The extended cover will be available without

payment of additional premium under Business and Holiday cover and under the Corporate Frequent Travellers cover. A more comprehensive policy with additional benefits has since been devised.

Videsh Yatra Mitra Policy covering supplementary benefits besides providing indemnity for medical expenses during the period of overseas travel, has been introduced by the general insurance industry with effect from 1 January 1998. Two types of policies—one offering limit of benefits up to US \$ 2,50,000 for worldwide travel but excluding USA and Canada and the other offering limit of benefits up to US \$ 5,00,000 for worldwide travel including USA and Canada are available under the Scheme. In addition to medical coverage, the policy provides coverage for : (i) Personal Accident up to US \$ 25,000; (ii) Loss of Personal Baggage up to US \$ 1,000; (iii) Delayed Baggage up to US \$100 and (iv) Personal Liability up to US \$ 2,00,000. The premium under the policy is only 14 per cent more than that under the existing Overseas Mediclaim Policy (OMP), while the medical benefits will be increased five times in addition to supplementary benefits.

Bhagyashree Child Welfare Policy covering girl child in the age-group of 0 to 18 years whose parents' age does not exceed 60 years, was introduced with effect from 19 October 1998. In case of each of the girl child or both parents, an amount of Rs 25,000 would be deposited in the name of the girl child with a financial institution. Fixed annual disbursements to the girl child up to the age of 18 years would be made from the amount to her credit, and the balance amount to her credit would be disbursed on attaining the age of 18 years.

Raj Rajeshwari Mahila Kalyan Yojana offering security to women in the age-group of 10 to 75 years irrespective of their occupation was introduced with effect from 19 October 1998. For a premium of Rs 15 per annum, the policy provides a cover of Rs 25,000 for permanent total disablement of the insured woman. The policy also provides a cover of Rs 25,000 for the death of her husband. For the death of an unmarried woman, the policy provides a cover of Rs 25,000 which will be payable to her nominee/legal heir.

The Government of India has introduced a National Agricultural Insurance Scheme with effect from Rabi 1999-2000 season. The erstwhile Comprehensive Crop Insurance Scheme has now been withdrawn. The new Scheme covers all food crops (cereals, millets and pulses) and oilseeds as well as limited number of annual commercial/horticultural crops for which past yield data is available. In the first year of operation of the Scheme, sugarcane, cotton and potato crops will be covered while other annual commercial/horticultural crops will be covered within three years subject to availability of yield data.

The subsidiaries of GIC have introduced *Jald Rahat Yojana* with an objective to expedite payment of compensation to road accident victims. Under the scheme a claimant is not required to go to Motor Accident Claims Tribunal for claiming compensation and can directly approach concerned

insurance company. Non-fatal injury claims involving accident victims of 18 years and above are taken up. The scheme is in operation in Ahmedabad, Mumbai, Bangalore, Calcutta, Delhi, Kochi, Chennai and Pune. During 1998-99, the general insurance industry settled 48,016 claims and disbursed about Rs 287 crore as compensation.

DISINVESTMENT

The Department of Disinvestment came into being in December 1999. The Disinvestment matters were earlier handled by the Department of Economic Affairs in the Ministry of Finance and its administrative departments.

A target of Rs 10,000 crore through disinvestment of Government-held equity in public sector enterprises was set for 1999-2000, but due to unfavourable market conditions and other constraints only about Rs 1,829.14 crore could be realised. This included the spill-over amount of Rs 459.27 crore, which was credited to the Government account during 1999-2000 out of the proceeds of cross-purchase of shares by three oil PSUs, viz., GAIL, IOC and ONGC during 1998-99.

One million shares of the Videsh Sanchar Nigam Limited (VSNL) were sold in the domestic market during September 1999 realising Rs 75 crore. The Government realised Rs 945 crore through 135 million shares of GAIL which were sold in the GDR market during November 1999. The Modern Food Industries Limited (MFIL) became the first PSU to be privatised. In January 2000, 74 per cent shares in MFIL were sold to the strategic partner for Rs 105.45 crore whereas 26 per cent shares in MFIL are still held by the Government. Apart from this, an amount of Rs 244.42 crore was raised through financial restructuring of BALCO.

A target of Rs 10,000 crore through disinvestment in PSUs has been set for the year 2000-2001. Out of 26 undertakings which are in the process of being disinvested, the key ones are BALCO, IPCL, ITDC, Indian Airlines and Air India.

INVESTMENT

UNIT TRUST OF INDIA

Unit Trust of India (UTI) was established in 1963 by an Act of Parliament to encourage and mobilise savings of small investors through the sale of 'Units' and to channelise these resources into corporate securities. Over the years, it has rapidly grown and diversified to become an important part of Indian Financial System. Today UTI enjoys a market share of 68 per cent in the mutual funds industry.

The investible funds of all UTI schemes is over Rs 72,487 crore (as on 31 March 2000) having over 4 crore investor accounts. This investor base is serviced through a network of 53 branch offices, 52 franchise offices, 213 collection centres, 315 chief representatives and 87,000 agents. The sales affected during the period July 1999 to March 2000 was well over Rs 10,000

crore. As on 31 March 2000, UTI manages 91 schemes and funds.

UTI has portfolio exposure in various companies covering all major profitable companies in the public, private, joint and financial sectors. UTI is also a major investor in Government Securities and Money Market Instruments. UTI's investment in the corporate sector is in the form of equity, preference shares, debentures, term loans and special deposits. More than 50 per cent of total funds of UTI Schemes are invested in equity. UTI is the largest operator in the Indian equity market with total investments worth about Rs 38,600 crore at book value (about \$9 billion). Its various funds collectively hold stocks in more than 1,600 Indian companies and account for over 8 per cent of the market capitalisation of all listed scrips on the Bombay Stock Exchange.

UTI launched the first Indian off-shore fund, 'The India Fund' in 1986. In 1988 UTI floated the India Growth Fund which is listed on the New York Stock Exchange. Subsequently UTI launched the India Access Fund—an Indian Index Fund (linked to the NSE 50 index), India Debt Fund, India Information Technology Fund and India Public Sector Fund. India Information Technology Fund was ranked number one in its category by the Lipper International for CY 1998. In the recent past, UTI has extended its support to the development of Unit Trusts in other developing countries like Sri Lanka, Bhutan and Egypt by providing technical advice, as well as participation in the equity capital.

In order to move towards creating a diversified financial conglomerate and meeting investor's varying needs under a common umbrella, UTI has set up a number of associate companies in the field of banking, securities trading, investor servicing, investment advice and training. The companies and organisations in the UTI group are: (i) UTI Bank Limited (1994)—the first private sector bank set up under RBI guidelines; (ii) UTI Securities Exchange Limited (1994)—the first institutionally sponsored corporate stock-broking firm; (iii) UTI Investor Services Limited (1993)—the first institutionally sponsored Registrar and Transfer agency; (iv) UTI Institute of Capital Markets (1989)—the first such institute in Asia, excluding Japan, and (v) UTI Investment Advisory Services (1988)—the first Indian Investment advisor registered with SEC (USA). Besides UTI also has a marketing set up known as UTI (International) Limited, located in London and Dubai.

During the year 1999-2000, in addition to Equity Tax Saving Plan, and series of Monthly Income Plans, UTI introduced a Growth Sector Fund (May 1999) comprising a Brand Value Fund, Pharma and Healthcare Fund, Software Fund, Services Sector Fund and Petro fund, with the facility of switching from one fund to the other for both domestic as well as NRI investors. UTI has plans to enter insurance and pension fund business.

STOCK EXCHANGES

Stock exchanges provide an organised market for transactions in equities and

other securities. There are 23 stock exchanges in the country, 20 of them are functioning at regional level with a given jurisdiction. Three others set up in the reforms period, viz., National Stock Exchange of India Limited (NSEIL), the Over-the-Counter-Exchange of India Limited (OTCEI) and Inter-connected Stock Exchange of India Limited (ISE), operate at national level with trading terminals in different cities. The ISE is promoted by 15 regional stock exchanges in the country and has been set up at Mumbai. The ISE provides a member-broker of any of these stock exchanges an access into the national market segment in addition to local trading segment available at present. The NSEIL, the Stock Exchange, Mumbai (BSE), OTCEI, ISE and majority of the regional stock exchanges have adopted the screen based trading system (SBTS) to provide automated and modern facilities for trading in a transparent, fair and open manner with access to investors across the country. Internet trading under order routing system has been permitted by SEBI in a limited way through registered stock brokers on behalf of clients for execution of trade on recognised stock exchanges from 31 January 2000. As on 31 March 2000, there were 9,871 listed companies on all the stock exchanges in the country. The market capitalisation of all listed companies at BSE was Rs 9,12,843 crore and at NSEIL, Rs 10,20,426 crore as on 31 March 2000. Total turnover of all the stock exchanges during 1999-2000 was Rs 20,67,030.56 crore.

DEPOSITORIES

A major development in the Indian securities market has been the growth of depositories leading to paperless trading and dematerialisation of securities. The Securities and Exchange Board of India (SEBI) has granted registration to two depositories, namely, the National Securities Depository Limited (NSDL) and the Central Depository Services (India) Limited (CDSL) under the Depository Act, 1996. The objective of the depository services is to improve and modernise the market and to enhance the level of investor protection through eliminating bad deliveries, forgery of shares and expediting the transfer of shares. This is being done through electronic book entry form and scripless trading in stock exchanges thereby reducing settlement risk. The SEBI is now following up the establishment of an inter-connectivity of NSDL and CDSL to facilitate inter-depository transfer of securities through the segregation of inter-depository transfers, resulting from settlement at the level of clearing corporations.

The number of scrips for compulsory settlement of trades in dematerialised form for institutional investors has been increased in phases to 462 as on 31 March 2000. However, the number of dematerialised shares increased from 6,970 million as on March 1999 to 15,500 million as on March 2000. According to NSDL and CDSL, 1,013 companies with a market capitalisation of over Rs 7,00,000 crore had signed agreement with the depositories. As on 31 March 2000, the depository services were available at 1,000 centres covering 200 cities across the country and there were 1,500 crore shares dematerialised having a value of Rs 4,00,000 crore. It is pertinent to mention that the volume of dematerialised securities constitute around 80 to 90 per cent of the total

delivery of securities at the NSEIL and BSE together and major 10 stock exchanges have established connectivity with NSDL for settlement and clearing of dematerialised trading.

MINTS AND PRESSES

India Security Press, Nasik Road, consists of two units, a Stamp Press and Central Stamp Depot. Stamp Press Prints postal stationery, postal and non-postal stamps, judicial and non-judicial stamps, RBI/SBI cheques, Bonds, National Savings Certificates, *Indira Vikas Patras*, *Kisan Viskas Patras*, Postal Orders, Passports, Promissory Notes and such other security documents as may be required by the Central and State governments. Central Stamps Depot deals with the supply of finished products to the indentors.

Security Printing Press, Hyderabad, prints postal stationery to meet the demand of Southern states and Central Excise stamps of the whole country Inland Letter Cards, Postcards and Embossed Envelops are also printed in the Press to supplement the output of India Security Press, Nasik. The Press is also printing non-judicial stamp papers of lower denominations. The Currency Note Press, Nasik Road, prints and supplies bank notes of rupees ten, fifty, hundred and five hundred denominations. Bank Note Press, Dewas, prints bank notes of the denomination of rupees twenty, fifty, hundred and five hundred and also manufactures security inks.

Security Paper Mill, Hoshangabad, manufactures paper for printing banks notes and non-judicial stamp paper of higher denominations.

There are Government mints at Hyderabad, Cherlapalli, Mumbai, Calcutta and Noida. The main function of the mints is minting of coins to meet domestic requirements, gold and silver assaying and medals production.

EXPENDITURE

The Department of Expenditure comprises seven main divisions, namely, (i) Establishment Division; (ii) Plan Finance Division; (iii) Finance Commission Division; (iv) Controller General of Accounts; (v) Cost Accounts Branch; (vi) Staff Inspection Unit; and (vii) Integrated Finance Division.

ESTABLISHMENT DIVISION

Establishment Division is the nerve centre for the entire gamut of the service conditions of the Central Government employees having financial content. Basically, these include revision/prescription of pay scales, fixation of pay and various allowances. The proposals received from various Ministries/Departments of the Government of India seeking clarification in regard to revision and prescription of pay scales, increments, deputation allowance and cadre review of various categories of posts are examined in this Division keeping in view the equity and comparable relativities and duties.

NATIONAL INSTITUTE OF FINANCIAL MANAGEMENT

The National Institute of Financial Management has been set up as an autonomous body under the administrative control of the Department of Expenditure. The Institute provides training in conventional and advanced subjects to probationers and serving Class I officers of the Central Accounts Services.

EXPENDITURE REFORMS COMMISSION

An Expenditure Reforms Commission was set up on 28 February 2000 under the Chairmanship of K.P. Geethakrishnan, former Finance Secretary, to review the entire gamut of expenditure profile of the Central Government with a view to suggesting ways and means to reduce and phase out non-warranted areas of expenditure. The terms of reference of the Commission are as follows : (i) To foster convergence and avoiding overlap in the functions of different Central Government Ministries, Departments and attached organisations and the role of the State Governments, suggest a road map for reducing the functions, activities and administrative structure of the Central Government; (ii) Review the framework of all subsidies, examine the economic rationale for their continuance and suggest measures for maximising their impact; (iii) Review the framework for determination of user charges of Departmental and commercial entities and suggest strategy for cost recovery through user charges; (iv) Review the adequacy of staffing under Central Ministries, attached offices and institutions and suggest measures for rationalising the staff and cadres of different services; (v) Review the procedure for setting up of Government funded autonomous institutions and their pattern of funding and suggest measures for effecting improvement and reducing budgetary support for their activities; and (vi) Consider any other relevant issue concerning expenditure management in Government and make suitable recommendations.

PLAN FINANCE

Plan Finance-I Division handles matters relating to finances and Plan outlays of States. It releases Central assistance to States for their Annual Plans including the assistance for externally aided projects, 'Hill Areas/Western Ghats Development Programmes, Border Areas Development Programmes, Accelerated Irrigation Benefit Programmes, special Central assistance and special plan assistance to Jammu & Kashmir, Central assistance from Non-lapsable Pool of Resources of North-East and Sikkim and additional Central assistance for other specific schemes/projects of the States. This Division also monitors ways and means and overdraft of the States with the RBI due to temporary mismatch in their receipt and expenditure. Besides releasing the Plan assistance to State, the Division also releases non-plan grants recommended by the Tenth Finance Commission, i.e., non-plan revenue deficit grants, Centre's share of the Calamity Relief and Central assistance from the National Fund for Calamity Relief.

During 1999-2000, Plan Finance-I Division discussed with the States, Fiscal Reform Programmes drawn up by them and handled the matter relating to Rs 5,000 crore of fiscal reform facility created for the States.

NON-LAPSABLE ASSISTANCE TO NORTH EAST

A Non-lapsable Central Pool of Resources was formed for the development of the North-East States (including Sikkim). An amount of Rs 296.14 crore was released during 1999-2000 for various projects from this pool under the State Plan out of the total allocation of Rs 303.97 crore.

Plan Finance-II Division deals with matters relating to the Central Plan. These cover the estimates of resources for Central Plan including internal and extra budgetary resources; plan outlays of different Ministries/Departments of the Central Government, appraisal of Plan projects/schemes before they are submitted to Public Investment Board (PIB)/Expenditure Finance Committee (EFC), etc. Plan Finance II is also the Secretariat of the PIB. The PIB considers investment proposals of the Central Government Ministries in regard to their Public Sector Undertakings. Under the revised guidelines, Central sector projects costing Rs 100 crore and above are considered by PIB. Secretary (Expenditure) is the Chairman of the PIB and Joint Secretary (Plan Finance II) acts as the Secretary to the Board. From January to December 1999, 38 projects were considered of which 31 projects with a total capital cost of Rs 32,184.51 crore were recommended.

STAFF INSPECTION UNIT

The Staff Inspection Unit (SIU) was set up in 1964 with the objective of securing economy in staff consistent with administrative efficiency and evolving performance standards and work norms. Where the SIU in the course of its work measurement studies comes across procedures and methods whose revision or modification seems patently necessary and is likely to lead to economy in staff, it incorporates suitable recommendations in its report. However, items requiring detailed methods-study are brought to the notice of Department of Administrative Reforms and Public Grievances for further necessary action. SIU's reports are mandatory and have to be implemented *in toto* within a specified time frame.

COST ACCOUNTS BRANCH

Cost Accounts Branch of the Department of Expenditure renders professional assistance to different Ministries/Departments and other agencies of the Central Government in studies relating to costing including price fixation of products and services, reasonableness of prices charged, investment appraisal, cost accounting-system and other related aspects.

The Branch is manned by officers who are professionally qualified Cost Accountants or Chartered Accountants and they are members of the Indian Cost Accounts Service. The needs of other Ministries - Industry, Commerce, Company Affairs, Food, Defence, Economic Affairs, Petroleum and Natural

Gas, Revenue (Central Excise), etc., are also met by posting ICAS officers to these Ministries on participating basis. The Branch is headed by Chief Adviser (Cost) who also advises the Department of Expenditure in matters relating to cadre administration of the ICAS.

CONTROLLER GENERAL OF ACCOUNTS

The Controller General of Accounts is the apex accounting authority of the Central Government and exercises the powers of the President under Article 150 of the Constitution for prescribing the forms of Accounts of the Union and State Governments on the advice of the Comptroller and Auditor General of India. The Controller General of Accounts is responsible for the following :

- (a) preparation and consolidation of the Union Government Monthly Accounts,
- (b) preparation and presentation to the Parliament of the Annual Appropriation Accounts (Civil) and Finance Accounts of the Union Government, (c) ensuring a sound and effective internal audit and pre-check system in the civil ministries, (d) monitoring of expenditure in civil ministries through prompt and accurate accounting, (e) government disbursements and banking arrangements of the Ministries/Departments of Government of India, (f) ensuring effective and close monitoring of Receipts of the Government of India especially those relating to Income Tax, Customs and Central Excise and (g) enabling the effective utilisation of accounts as a tool of management by constant upgradation of the quality of accounts, leading to improved financial control within the Government.

The Controller General of Accounts presents a detailed analytical review of Union Government Accounts every month to the Finance Minister. The review covers major aspects of receipts, expenditure, fiscal deficit, source of financing to facilitate decision-making at the highest level. Data on "Central Government Operations" is also placed on Internet website "<http://cga.nic.in>" every month.

For imparting intensive in-service training in accounting, budgeting, financial management, expenditure control, internal audit, administrative-cum-establishment matters and initial and advanced level training in development and use of computer application to officials working in various Central Government Ministries/Departments, an Institute of Government Accounts and Finance (INGAF) was set up in February 1992. The Institute has regional training centres at Calcutta, Chennai and Navi Mumbai. Officers of Indian Civil Accounts Services are imparted professional training at this Institute.

FINANCE COMMISSION DIVISION

The Finance Commission Division is concerned with the implementation of the report of the Finance Commission set up from time to time. A Finance Commission is to be constituted every fifth year or at such earlier time as the President considers necessary. It makes recommendations to the President as to : (a) the distribution between the Union and the States of the net proceeds

of taxes which are to be, or may be, divided between them and allocation between the States of the respective share of such proceeds; (b) the principles which should govern the grants-in-aid of the revenues of the States in need of such assistance out of the Consolidated Fund of India; (c) the measures needed to augment the Consolidated Fund of a State to supplement the resources of the *Panchayats* in the State on the basis of the recommendations made by the Finance Commission of the State; (d) the measures needed to augment the Consolidated Fund of a State to supplement the resources of the Municipalities in the State on the basis of the recommendations made by the Finance Commission of the State; and (e) any other matter referred to the Commission by the President in the interest of sound finance. The recommendations of the Commission together with an explanatory memorandum as to the action taken thereon are laid before each House of Parliament. Eleven Finance Commissions have been constituted so far.

The Tenth Finance Commission's (TFC) recommendations (1995-2000) regarding devolution of Income-tax, Union excise duties, additional duties of excise in lieu of sales tax, grants-in-aid to cover non-plan gap on revenue account, financing of relief expenditure, grants for upgradation and special problems grants for local bodies and debt relief have been implemented. Out of the total grant of Rs 2,608.50 crore under upgradation and special problem recommended by the Commission an amount of Rs 1,804.86 crore has been released to the States during the period 1996-2000. Under local body grants, out of the total grant of Rs 5,380.93 crore, Rs 4,410.25 crore have been released to the States. To facilitate sharing of taxes between Centre and States from a single divisible pool under Alternative Scheme at a uniform rate of 29 per cent, the 89th Constitutional Amendment Bill, 2000 has been passed by the Parliament in May 2000. The President has given his assent to the amendment as passed by the Parliament.

The Government of India constituted the Eleventh Finance Commission (EFC) by a Presidential Order of 3 July 1998 with mandate to give its report by 31 December 1999. In addition to the task of deciding the share of the States in the divisible Union taxes, and their *inter se* allocation, and formulating principles to govern the determination of grants-in-aid to States-in-need, the Commission has been asked to recommend measures for augmenting the Consolidated Fund of the States to supplement the resources of their local bodies, *viz.*, *Panchayats* and Municipalities. The Commission is also required to review the finances of the Union and the States and suggest ways and means by which the governments, collectively and severally, can bring about a restructuring of the public finances so as to restore budgetary balance and maintain macro-economic stability. In making its recommendations the Commission is required to have regard to, *inter alia*, the needs of the States for meeting not only non-plan revenue expenditure but current expenditure under the plans as well. Another notable new feature of the terms of reference of this commission is the requirement to suggest suitable corrective measures for ensuring long-term sustainability of the country's public debt, while

making an assessment of the debt position of the States as on 31 March 1999. The Commission submitted its report to the Government on 7 July 2000. A number of recommendations made by the Commission have been accepted and are under process for implementation.

NON-RESIDENT INDIAN INVESTMENTS

Recognising the investment potential of the Non-resident Indians, a number of steps have been taken by the Government to attract investments from them in Indian companies. Some of the investment schemes presently available to NRIs are : (a) the facility to invest with full benefits of repatriation of capital invested and income accruing thereon under automatic approval subject to the specified exceptions; (b) higher foreign direct investment in sectors having sectoral caps such as domestic air transport services and private sector banks; and (c) 100 per cent investment in export oriented units, sick units under revival, housing and real estate development companies, etc.

POLICY INITIATIVES/LIBERALISATION TO ATTRACT NRI INVESTMENTS

(a) Revision in portfolio investment ceiling : (i) The individual portfolio investment by NRIs in a company through the secondary market increased from 1 per cent to 5 per cent; (ii) The aggregate portfolio investments through secondary market by all NRIs/PIOs/OCBs increased from 5 per cent to 10 per cent in a company; and (iii) The aggregate portfolio investment limit of 10 per cent by all NRIs/PIOs/OCBs will be exclusive and separate from FIIs to avoid crowding out of NRIs by FIIs; (b) The two stage RBI approval mechanism in the case of allotment in a primary issue has been substituted with general permission; (c) In respect of all schemes falling under the RBI approval mechanism, RBI have granted general permission whereby the Indian companies may issue equity shares/convertible debentures to NRIs/PIOs/OCBs without prior approval of RBI subject to specified conditions and reporting within 30 days; (d) Simplification of procedure for extension of validity of approval in the case of portfolio investment by NRIs/PIOs/OCBs; and (e) RBI general permission granted through designated banks to NRIs/PIOs/OCBs for secondary market transactions is valid for five years. The power for renewal, which originally rested with RBI, has been delegated to the designated banks thereby reducing the time lag involved in renewal of approvals.

INITIATIVES IN IMPLEMENTATION

(i) Simplification of NRI investments in the Indian Mutual Funds (MFs); (ii) RBI's prior permission to Mutual Funds after they obtain SEBI registration, for issue of units to NRIs/PIOs/OCBs substituted with general permission, subject to certain specified norms for issue of units—operationalised by RBI; (iii) Extension of screen-based automated trading in securities to overseas through opening of trading terminals abroad to facilitate direct participation of NRIs in the capital markets. Modalities worked out by SEBI; (iv) Foreign Investment Implementation Authority (FIIP) set up within the Ministry of

Industry with representation from State Governments, and in all cases where FIPB clearance is involved, time frame for approval by FIPB reduced to 30 days.

FOREIGN CAPITAL MOBILISATION THROUGH EURO ISSUES (ADRs/GDRs/FCCBs)

A Scheme was initiated during 1992/1993 to allow the Indian Corporate Sector to have access to the Global Capital Markets through issue of Foreign Currency Convertible Bonds (FCCBs)/Equity Shares under the Global depository mechanism.

Under this scheme, Companies with consistent track record of good performance (financial or otherwise) for a minimum period of three years were entitled to access international capital market. The three year track record requirement had been relaxed for companies making Euro issues for financing projects in the infrastructure sector like power generation, telecommunication, petroleum exploration and refining, ports, airports, roads.

Euro issues by companies to finance activities that are predominantly within Annexure III of the New Industrial Policy with GDR equity holding within 51 per cent were considered and cleared by the Department of Economic Affairs (DEA). For cases involving funding of activities outside Annexure III and also where foreign equity holding after the GDR issue is likely to exceed 51 per cent required FIPB approval after an in principle approval by DEA.

Recent Policy Initiatives : (i) Permission to unlisted companies to float Euro issues; (ii) Withdrawal of the stipulation limiting the validity period of 90 days for final approval for ADR/GDRs in order to provide greater flexibility to the issuing company in timing the ADR/GDR issue; (iii) No restriction on deployment of ADR/GDR issue proceeds except for the ban on investment in stock market and real estate; (iv) Permission to Information Technology Sector companies to issue ADR/GDR linked stock option to their employees; and (v) Permission to issue ADRs/GDRs as a consequence of business reorganisation/merger/demerger.

Relaxations announced during 1999-2000 : The two stage approval by the Ministry of Finance, Department of Economic Affairs for ADR/GDR issues and consequently the track record condition of eligibility to access the international capital market dispensed with. ADR/GDR being Foreign Direct Investment (FDI), such issues would need to conform to the existing FDI Policy and would be permissible only in areas where FDI is permissible. RBI have issued enabling notification under FERA granting general permission to the Indian companies to issue ADRs/GDRs without the prior approval of RBI subject to post-issue reporting to the Department of Economic Affairs, Ministry of Finance and RBI within 30 days of completion of the ADR/GDR issue has been prescribed. Overseas business acquisitions by Indian companies engaged in areas/activities in the sectors of (1) Information Technology &

Entertainment software; (2) Pharmaceuticals; (3) Biotechnology; and (4) Any other sector as notified by the Government from time to time through ADR/GDR stock swap under automatic/simplified approval mechanism.

Automatic approval is applicable subject, *inter alia*, to : (i) Condition of previous listing, i.e., the company proposing such overseas acquisition should have floated ADR/GDR earlier which is listed abroad; (ii) Conforming to FDI policy; (iii) Transaction would be limited to \$ 100 million or 10 times the export earnings during the preceding financial year.

Cases not conforming to the requirements for automatic route would require consideration by the Special Composite Committee on overseas business acquisition through ADR/GDR Stock-swap.

ADRs/GDRs once converted into underlying shares are not eligible for reconversion into ADRs/GDRs.

PORTFOLIO INVESTMENTS BY FOREIGN INSTITUTIONAL INVESTORS

A scheme for attracting portfolio from Foreign Institutional Investors (FIIs) has been operational since September 1992. Under this scheme, FIIs including institutions such as Pension Funds, Mutual Funds, Investment Trusts, Asset Management Companies, Nominee Companies and Incorporated/Institutional Portfolio Managers or their power of attorney holders are allowed to invest in all the securities traded on the primary and secondary markets as also in unlisted companies. Such securities would include shares, debentures and warrants issued by companies which are listed/to be listed on the Stock Exchanges in India and the schemes floated by domestic mutual funds.

In the case of regular FIIs, while there are no restrictions on the volume of investments by the FIIs and no lock-in periods for investments made by the FIIs, portfolio investments in a company is subject to investment limits.

Policy Initiative—1999-2000 : Expansion in the Foreign Institutional Investors category, permitting the following categories of investors and arrangements to invest through the FII portfolio investment route (approved by Government but to be operationalised by SEBI): (a) to permit foreign corporates and high net worth individuals to invest through SEBI registered FIIs. Such investments will be subject to a sub-limit of 5 per cent within the aggregate limit for FII portfolio investments of 24 per cent in a single company; and (b) to permit SEBI registered domestic fund managers to manage foreign funds for investment in the Indian capital market through the portfolio investment route provided the funds are channeled through internationally recognised financial institutions and subject to the reporting requirements as applicable to FIIs.

Enhancement in the aggregate portfolio investment limits by FIIs through special procedure. Requisite Press Note issued on 1 March 2000 whereby Indian companies would be permitted to raise the aggregate ceiling for FII portfolio investments from the normal level of 24 per cent to 40 per cent of

the issued and paid up capital of an Indian company subject to : (a) Approval by the Board of Directors of the Company to the enhanced limit up to 40 per cent and (b) A Special Resolution passed by the General Body of the Company approving the enhanced limit up to 40 per cent.

Cumulative Net Investments by all FIIs as reported by SEBI had been \$ 11.237 billion up to 31 March 2000.

FOREIGN INVESTMENTS IN VENTURE CAPITAL

Guidelines governing overseas investment in Venture Capital Fund/Venture Capital Company were issued in September 1995. In terms of these guidelines, the off-shore investors have the option of investing in venture capital undertaking/unlisted companies : (a) either through investment in approved domestic Venture Capital Funds/Companies after obtaining FIPB approval for the investment in VCFs/VCCs. In such cases subsequent investments in the venture capital undertaking/unlisted company will require no further FIPB approval; (b) alternatively the overseas investor may invest directly in the equity of unlisted Indian companies without going through the route of a domestic VCF/VCC. In such cases each investment will be treated as a separate act of foreign investment requiring separate approvals and needs to conform to FDI norms and policies.

In cases where Foreign Venture Capital Funds invests through the domestic VCCs/VCFs, such investments would be governed by SEBI Regulations on VCCs/VCFs and covered by the provisions of Section 10(23F) of the Income Tax Act, 1961.

BUDGET INITIATIVES 2000-2001

With a view to create a facilitating environment for the growth of Venture Capital Industry, simplification in procedures has been announced in the Budget for 2000-2001 whereby SEBI will be the single point nodal agency for registration of domestic and overseas venture capital funds.

EXTERNAL COMMERCIAL BORROWINGS

External Commercial Borrowings (ECBs) are defined to include commercial bank loans, export credits and bonds. External Commercial Borrowings are being permitted by the Government for providing an additional source of funds to Indian corporates and PSUs for financing expansion of existing capacity and as well as for fresh investment, to augment the resources available domestically.

REVENUE

The Department of Revenue exercises control in respect of revenue matters relating to the direct and indirect Union taxes through two statutory Boards, namely, Central Board of Direct Taxes and the Central Board of Excise and Customs. The Department is also entrusted with the administration and

enforcement of controls and regulatory measures provided in the enactments concerning central sales tax, stamp duties, forfeiture of properties of smugglers and foreign exchange manipulators, and other fiscal statutes. Control over production and disposal of opium and its products is also vested with this Department.

DIRECT TAXES

The Income Tax Department administers a number of Direct Tax Acts, namely, the Income Tax Act, 1961, the Wealth Tax Act 1957, the Gift Tax Act, 1958, Interest Tax Act, and the Expenditure Tax Act, 1987. Table 13.5 gives figures of revenue collection under various major direct taxes from 1994-95 onwards.

LEGISLATION

New legislation relating to direct taxes for the financial year 2000-2001 are contained in the Finance Act, 2000. The significant provisions are : (i) Stability in tax rates has been continued with no change in rates of personal or corporate tax. Income-tax exemption limit remains unchanged at Rs 50,000. Similarly, there is no change in standard deduction for salary income. Surcharge at the rate of 10 per cent and 15 per cent is leviable for income of non-corporate assessees (including non-residents) with an income from Rs 60,000 to Rs 1,50,000 and with incomes above Rs 1,50,000 respectively. Companies pay surcharge at the rate of 10 per cent; (ii) Venture Capital Funds (VCFs) have been accorded complete pass through status, with the income being taxed only in the hands of investors when the same is received by them from the VCFs, as if they had earned this income through investments made by them directly to the Venture Capital Undertakings (VCUs); (iii) Interest from bonds issued by local authorities as specified by Central Government made tax-free to make funds available for infrastructure; (iv) Investment in public companies formed with the main object of carrying on the business of providing long-term finance for urban infrastructure has been specified as one of the eligible modes of investment for religious and charitable trusts; (v) Income of Investor Protection Funds set up by recognised stock exchanges are made exempt from tax; (vi) It has been provided that long-term capital gains arising from transfers of units of Unit Trust of India and mutual funds shall not exceed 10 per cent of the capital gains before allowing adjustment for Cost Inflation Index; (vii) Payments received up to a limit of Rs 5 lakh by employees of unviable PSUs under a scheme of voluntary separation are made exempt from Income-tax; (viii) Non-agricultural income of farm houses are made taxable; (ix) Voluntary Retirement Schemes framed as per prescribed guidelines are no longer required to be approved by tax authorities; (x) Investments made in public sector companies to continue to be eligible for specified instruments by trusts, for a certain period after disinvestment by Government (3 years in case of shares, till the date of maturity in case of other investments); (xi) Tax on dividends distributed by domestic companies and income distributed by mutual funds and UTI on debt-oriented schemes to be raised from 10 per cent to 20 per cent; (xii) Charitable and religious

trusts will continue to get tax exemptions even if the income or any property of trust is applied for the benefits of trustees, etc. - such benefits alone are to be taxed; (xiii) Interest for delayed payments of dividend tax and tax on distributed profits by mutual funds and UTI reduced from 2 per cent p.m. to 1.5 per cent p.m.; (xiv) Tax holiday for housing projects has been extended for such projects, which are completed before 31 March 2003; (xv) Limit of loan repayment on housing raised to Rs 20,000 under Section 88; (xvi) Tax holiday benefit extended to solid waste management and water treatment for developing urban infrastructure; (xvii) Benefit of exemption of export income by entertainment industry extended to non-corporate entities retrospectively with effect from financial year 1999-2000; (xviii) Taxability of employees' stock options has been changed. Now these stock options would be taxed as capital gain when sold by the assessee and not as perquisites on the exercise of such option; (xix) Tax holidays in respect of newly established industrial undertakings in free trade zones, software technology park, electronic hardware technology park and for 100 per cent export oriented undertakings have been reformulated to allow deductions for all such units which are set up up to 31 March 2009. In order to provide fiscal support to information technology, these tax concessions have also been extended for the manufacture of computer software including IT enabled services; (xx) Fiscal concessions extended to those industrial units which are set up in industrially backward states and districts upto 31 March 2002; (xxi) Existing fiscal concessions for small-scale industries has been extended to such units, which are set up till 31 March 2002; (xxii) In order to rationalise tax structure all tax concessions relating to earning in foreign exchange are being phased out in five years' period; (xxiii) MAT to be charged at 7.5 per cent of book profits by all companies without any exception barring export profits during the phasing out period. No credit would be allowed for MAT paid; (xxiv) As a welfare measure tax rebate for senior citizens has been increased from Rs 10,000 to Rs 15,000. Tax rebate of Rs 5,000 has been introduced for women tax payers below 65 years of age and deduction for repayment of loan for higher education has been raised from Rs 25,000 to Rs 40,000; (xxv) Weighted deduction for expenditure incurred on scientific research on in-house research and development facility has been enhanced from 125 per cent to 150 per cent; (xxvi) In order to enable the shipping industry to go in for fleet expansion, acquisition and modernisation, the existing deduction at 50 per cent of shipping profits has been enhanced to 100 per cent for a period of five years; (xxvii) Film producers to file particulars only of payments exceeding Rs 50,000 as against the earlier limit of Rs 25,000; (xxviii) 100 per cent deduction of payments for setting up vocational education institutions in small towns and rural areas; (xxix) Unabsorbed depreciation shall now be allowed to be carried forward and set off even if the same business is not carried on; (xxx) Limit of gross receipts of compulsory maintenance of books of accounts by professionals has been enhanced from Rs 60,000 to Rs 1,50,000; (xxxi) TDS exemption limit for non-banking interest has been enhanced from Rs 2,500 to Rs 5,000. Henceforth, the assesseees will be able to receive interest on non-banking interest up to

Rs 5,000 without deduction of tax at source; (xxxii) With a view to facilitating restructuring of authorities or bodies such as State Electricity Boards, the provisions relating to conditions under which such restructuring can be termed as demerger, with attendant fiscal benefits, have been modified. Such conditions will now be notified separately by the Government; (xxxiii) The limit of deduction for interest on loans taken for acquiring or constructing self-occupied house property has been raised to Rs one lakh. The enhanced limit can be availed where such loans are taken after 1 April 1999 and the construction or acquisition of the house with such loan is completed on or before 31 March 2003; (xxxiv) The provisions relating to amalgamations, demergers and slump sales have been further rationalised; (xxxv) Instead of a large number of varied and diverse financial instruments which were hitherto available for investment in order to obtain exemption from capital gains tax, bonds redeemable after three years to be issued by National Highway Authority of India and National Bank of Agriculture and Rural Development, have been specified. This will ensure focussed investment of capital gains for agricultural finance has also been extended to investments made in house property even if the person already has one house existing on the date of the transfer; (xxxvi) The concessional rate of tax of 10 per cent on long-term capital gains arising on transfer of certain securities has been extended to cases of transfer of units of UTI and all mutual funds; (xxxvii) With a view to giving a further impetus to the widening of the tax base and for making PAN a common business identifier number for various departments, powers have been delegated to the Central Government to notify a class or classes of persons for whom it will be obligatory to apply for permanent account number; (xxxviii) The system of advance rulings has been made applicable to any resident in relation to transaction undertaken or proposed to be undertaken by him with a non-resident; (xxxix) An advisory time limit has been provided for the Income Tax Appellate Tribunal to decide even those appeals, which have been filed by the Department, for further reducing the time involved in litigation; and (xl) The levy of Interest Tax on credit institutions has been abolished in relation to interest arising on or after 1 April 2000.

COMBATING TAX EVASION

The Income Tax Department is taking necessary legislative and administrative steps from time to time to curb/control black money and is also striving to check tax evasion and accumulation of unaccounted wealth. In pursuance of this objective, systematic surveys, search and seizure operations, verification of information by Central Information Branches in a planned manner and scrutiny of selected cases, are undertaken. Persons found to be indulging in tax evasion are dealt with severely, by imposing penalties and by launching prosecution proceedings against them. Results achieved in searches and surveys and statistics for prosecution launched since 1992-93 are as under:

SEARCHES

Year	No. of searches	Value of assets seized (Rs in crore)	Amount of concealed income surrendered (Rs in crore)
1992-93	4,777	384.02	501.05
1993-94	5,026	396.45	448.82
1994-95	4,830	381.42	577.08
1995-96	4,612	458.14	Not applicable in view of change in law.
1996-97	4,299	405.63	-do-
1997-98	3,653	306.85	-do-
1998-99	5,740	300.54	-do-
1999-2000	5,670	412.85	-do-

SURVEYS

Year	No. of premises surveyed	No. of new assessees added
1992-93	10,94,397	9,03,106
1993-94	4,98,517	12,00,446
1994-95	7,92,006	15,16,721
1995-96	7,83,295	13,16,764
1996-97	8,18,982	16,58,302
1997-98	4,59,741	23,78,194
1998-98	1,95,136	38,56,469
1999-2000	1,24,388	30,52,034

STATISTICS FOR PROSECUTION

Year	No. of prosecution launched	No. of proceedings decided	No. of conviction	No. of proceedings compounded	No. of acquittal
1992-93	1,491	1,301	102	391	508
1993-94	941	1,134	57	507	570
1994-95	792	2,130	127	1,379	624
1995-96	288	2,158	79	1,592	487
1996-97	393	1,300	20	643	637
1997-98	801	1,239	93	143	1,003

1998-99	184	668	77	184	407
1999-2000	343	1,607	14	128	1,465

TABLE 13.5 : DIRECT TAXES

Taxes	Amount of Revenue collected					(Rs in crore)
	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000 ¹
Corporation Tax	13,821	16,487	18,567	20,016	24,529	30,697
Income Tax	12,020	15,587	18,234	17,101	20,240	25,296
Interest Tax	801	1,170	1,712	1,205	1,264	1,200
Wealth Tax	98	72	76	113	162	117
Gift Tax	14	11	10	9	10	-3
Expenditure Tax	181	216	293	9,834	395	270

¹ Provisional

INDIRECT TAXES

Customs and Union Excise are two major sources of the Central Government Tax Revenue. The revenue from customs duties during 1998-99 was Rs 41,277.77 crore and the collection for 1999-2000 was Rs 48,315.30 crore (provisional). The revenue from Union Excise duties (excluding cesses not administered by Department of Revenue) during 1998-99 was Rs 52,454.06 crore and the collection during 1999-2000 was Rs 61,389.33 crore (provisional).

Major changes introduced in the budget 2000-2001 on customs tariffs are : To achieve greater tariff reforms, general peak rate of customs duty has been reduced from 40 per cent to 35 per cent *ad valorem*. To bring about a more rational and simplified tax structure, the existing five major *ad valorem* rates of basic customs duty were rationalised to four *ad valorem* rates of 5 per cent, 15 per cent, 25 per cent and 35 per cent. To provide adequate protection to the domestic agricultural sector, basic customs duty was raised to 35 per cent on agricultural goods (other than cereals), horticultural and floricultural products, dairy products, processed foods and marine products. Further the tariff rate of basic customs duty were fixed on wheat at 100 per cent, rice at 60 per cent - 80 per cent, sugar at 100 per cent and edible oils at 45 per cent - 100 per cent. However, the effective rates of basic customs duty on wheat was fixed at 50 per cent adv. in December 1999, on sugar at 60 per cent adv. in February 2000, on rice at 70 per cent-80 per cent adv. in April 2000 and on crude vegetable oils at 25 per cent and on refined vegetable oils at 35 per cent-45 per cent in June 2000. To keep the cost of petroleum products down, the basic customs duty on crude petroleum was reduced from 20 per cent to 15 per cent and on petroleum products from 30 per cent to 25 per cent. In view of the increase in international prices of

crude, the duty was further reduced to 10 per cent on crude petroleum and to 20 per cent on petroleum products with effect from 30 September 2000. The basic duty has been reduced from 40 per cent to 15 per cent on platinum and diamond to promote exports of jewellery, from 25 per cent to 5 per cent on fogging machines, from 40 per cent to 15 per cent on dietary soya fibre, from 15 per cent to 5 per cent ferro-nickel for manufacture of steel, from 25 per cent to 5 per cent on propane conversion kits and their parts and from 35 per cent to nil on 17 specified life saving drugs.

To encourage growth of Information Technology (IT) sector and reduce prices of IT products, further concessions on import duty for specified inputs and capital goods for Information Technology were given by way of reduction in basic customs duty as follows : On automatic data processing machines (computer), PPCBs (mother board) and floppy diskettes from 20 per cent to 15 per cent; on ink catridges, ribbon assembly, ribbon drive assembly, ribbon gear carriage, etc., from 40 per cent to 25 per cent; on CD ROMs, HDD/FDD/CD ROM drive and other storage devices, micro-processors for computers, integrated circuits and micro assemblies, data graphic display tubes for colour monitors, deflection components for data graphic display tubes for colour monitors from 5 per cent to 0 per cent; specified capital goods for manufacture of electronic components from 15 per cent to 5 per cent.

Further, import duty has been reduced on a number of items used in the telecommunications sector. These include reduction in import duty to a level of 5 per cent *ad valorem* on cell phones, pagers and radio trunking terminals, specified equipment such as routers, ATM switch, Frame Relay Switch, Ethernet cards and Dense Wave Division Multiplexing equipment used for Internet Services, etc. The import duty on optical fibres and optical fibre cables has been reduced 15 per cent and 25 per cent *ad valorem* respectively.

To give boost to entertainment and film industry, basic customs duty on cinematographic cameras, and other related equipment, reduced from 40 per cent to 25 per cent; similarly basic customs duty reduced on colour positive films in jumbo rolls and colour negative films in rolls of certain sizes, from 15 per cent to 5 per cent together with exemption on additional duty of customs.

A composite rate of tariff has been fixed in place of *ad valorem* rates charged at present to give effect to Indo-US and Indo-EU agreements on Textile.

Major changes introduced in the budget 2000-2001 on excise duties are : To achieve major simplification in the rate structure and to reduce disputes and litigation, the existing three major *ad valorem* rates of excise duty have been converged into a single rate of 16 per cent. With this rationalisation, excise duty has been converted into a uniform 16 per cent Central Value Added Tax (CENVAT) at production stage. However, special excise duty at the rate of 8 per cent, 16 per cent and 24 per cent continue

on specified demerit goods. 24 more items have been brought under the MRP based excise levy scheme and with this addition, the number of commodities under this scheme has increased to 69. A new set of simple and transparent rules was introduced under the CENVAT scheme, replacing the MODVAT scheme. All inputs (excepting High Speed Diesel Oil & Motor Spirit) and all capital goods have now been included in the eligible list for input tax credit. All finished goods (except matches) have been brought under the CENVAT credit scheme. The capacity based excise levy scheme secondary producers of steel have been abolished and they have been subjected to *ad valorem* levy of excise duty. Also integrated steel plants have been allowed to pay duty at the ex-factory price on steel sold from their stock yards. The deemed wholesale price concept for payment of excise duty has been done away with and in its place, a new transaction value concept has been introduced with effect from 1 July 2000. Excise duty is now payable on the value of transaction, excluding taxes. This has brought about great simplicity in the valuation of excisable goods. Substantial simplification has been introduced in the procedure for excise duty collection. With effect from 1 July 2000, all statutory records for excise purposes have been abolished and the assessee's private records are accepted for determination of tax liability. Further, in a historic step, from the beginning of the current financial year, advance payment of excise duty has been done away with and a new system of payment of excise duty on fortnightly basis for non-SSI units and on monthly basis for SSI units has been introduced.

Changes in SSI scheme : Commodity-specific exemptions for small scale units manufacturing articles of plastics, cosmetics and toilet preparations, tread rubber, air conditioning and refrigeration machinery and parts have been merged with the general SSI scheme. In order to take care of the genuine requirements of the small-scale sector there is a small-scale exemption scheme for units with a turnover not exceeding Rs three crore in a financial year. This scheme provides for a graded duty structure, that is, full exemption up to a certain value of clearance limit, and the normal rate of duty thereafter. With effect from 1 September 2000, the full excise duty exemption limit for small scale units has been raised from Rs 50 lakh to Rs one crore in a financial year.

SERVICE TAX

Tax on services was first introduced in the year 1994 as a measure of widening the tax base of indirect taxes. Though service tax as a concept is new to the Indian economy, it has a great revenue potential considering the fact that more than 40 per cent of the GDP is contributed by the services sector. Revenue realised from service tax in 1998-99 was Rs 1,875 crore while in 1999-2000 it is Rs 2,057 crore (provisional). Presently service tax is levied on 27 specified services. As the service tax is at a nascent stage, to make the tax acceptable to the tax payer, the rate of tax has been kept nominal at 5 per cent and a lot of emphasis has been placed on voluntary compliance. Further the procedure for payment of tax has to be simple and easy to comply with.

Several procedural simplifications for payment of service tax by individuals, proprietary firm or partnership firm and foreign firm not having an office in India have also been prescribed. Considering that service tax is emerging as an area of promise as well as problems in the budget for the year 2000-2001, an expert group on service tax has been constituted to go into all aspects connected with the field of taxing the services and to make recommendations thereon. The expert group is required to submit its report by 31 December 2000.

OPIMUM CULTIVATION

India is one of the licit producers and exporters of gum opium in the world market. Cultivation of opium poppy, and production and export of opium are under the exclusive control of the Central Government. During the opium crop year 1999-2000, about 32,085 hectares was harvested under poppy cultivation by 1,51,671 cultivators in Uttar Pradesh, Madhya Pradesh and Rajasthan.

Opium Production : Against the target of 1,200 tonnes of opium at 90 degree consistence, about 1,302 tonnes opium at 90 degree consistence has been procured during the opium crop year 2000. A record production has been achieved in the crop year 2000, with an average yield of 52.65 kg/per hectare. The average yield from Madhya Pradesh, Rajasthan, Uttar Pradesh has been 55.64, 54.31 and 45.33 kg/hectare respectively, compared to the previous year's average yield of 41.59, 43.34 and 44.14 kg/hectare respectively, from the three States.

Government Opium and Alkaloid Works : The receipt of opium from the fields, its storage, custody, drying for purposes of export and other export-related operations are the main functions of Government Opium and Alkaloid Works, located at Neemuch and Ghazipur. These two units are also engaged in the production of bulk drugs like Codenine Phosphate, Morphine Sulphate, Narcotine B.P., Thebaine Papaverine, Coferine Chloride, etc., for domestic consumption. Some of these drug preparations are essential for terminally ill cancer patients.

ANTI-SMUGGLING DRIVE

The relentless drive against smuggling, tax evasion and other economic offences continued during 1999-2000. The anti-smuggling agencies along the coast, land borders, ports and at international airports maintained high degree of alert to prevent and detect smuggling of goods. Efforts were focussed on detection of commercial frauds like invoice manipulations and fraudulent exports to avail various benefits illegally. As a result thereof, contraband goods valued at Rs 609.99 crore were seized during 1999-2000. Besides, cases of customs duty evasion amounting to Rs 714 crore were also detected.

SALES TAX

Sales Tax is the most important source of revenue for the States. Though

Central Sales Tax Act, 1956 is a Central enactment, its administration has been entrusted by law to the State Governments who collect and retain the proceeds of tax levied on inter-State sale of goods under this Act. Total collection of Sales Tax covering State Sales Tax, Central Sales Tax, Sales Tax on motor spirit and lubricants, surcharge on Sales Tax, etc, during 1999-2000 is estimated at Rs 64,154.08 crore. Total collection of additional excise duty levied on sugar, tobacco and textiles in lieu of Sales Tax during 1999-2000 is estimated to be Rs 4,382.19 crore.

In a meeting of the Chief Ministers and Finance Ministers of the States/UTs held on 16 November 1999, a decision was taken by consensus, to implement uniform floor rates of Sales Tax and to phase out sales tax-based incentives by 1 January 2000. It was also decided to go in eventually for a unified Value Added Tax (VAT) system all over the country. A view was also taken to rationalise the Central Sales Tax. These measures are intended not only to prevent 'rate wars' between the States checking revenue leakage through unhealthy competition, but also marks a significant move in the direction of transforming the indirect taxation structure into a harmonised system.

CORPORATE SECTOR

COMPANIES ACT

The first company legislation in India was an Act for registration of Joint Stock Companies enacted in 1850. This was followed by the Indian Companies Act, 1866 (10 of 1866), the Companies Act, 1882 (6 of 1882) and the Indian Companies Act, 1913 (7 of 1913). Under these enactments, administration of companies legislation was the responsibility of the State Governments.

The Companies Act, 1956, a Central Act, currently in operation was enacted as a result of the recommendations of a committee constituted under the Chairmanship of C.H. Bhabha for company law reform. The Act provides various powers to the Central Government to monitor, regulate and control the affairs of companies. The companies have mainly to deal with : (a) the Registrars of Companies; (b) the Regional Directors to whom certain powers have been delegated by the Central Government; (c) the winding up/liquidation of companies are dealt with by the offices of the Official Liquidators attached to High Courts; and (d) the Company Law Board (CLB), established under the Act which has the powers to adjudicate on petitions filed under the Companies Act, 1956.

The Companies Act, 1956 has been amended over 18 times during its operation in the past. The amendments of 1969, 1974, 1977, 1988, 1996 and 1999 are of special importance. The latest amendment to the Act has been effected through the Companies (Amendment) Act, 1999 (21 of 1999). The changes brought by the Act, 1999 are : (a) The Infrastructure Development Finance Company Limited has been recognised as one of the Public Financial Institutions; (b) companies have been allowed to buy back their own securities;

(c) companies have been enabled to issue 'Sweet Equity' - i.e., Shares issued at a discount or for consideration other than cash - for providing know-how or making available rights in the nature of intellectual property rights or value additions; (d) facility for nomination has been provided for the benefit of share/debenture/deposit holders; (e) an Investor Education and Protection Fund has been proposed to be established; (f) National Advisory Committee on Accounting Standards for companies to be established; and (g) companies have been freed from obtaining prior approval of the Central Government for their inter-corporate investment/lending proposals.

Over the years a need has been felt to completely re-write the Companies Act, in the light of the modern-day requirements of the corporate sector, the aspirations of investors, globalisation of economy, liberalisation, etc. The Government set up a Working Group in August 1996 for this purpose which recommended a number of changes and also prepared a working draft of Companies Bill, 1997. The Central Government invited comments/suggestions from all concerned on this draft Bill. The Government Bill to recodify the Companies Act, 1956 was finalised after taking all comments/suggestions into consideration.

The Companies Bill, 1997 has regrouped certain provisions relating to specific subjects and deleted redundant provisions. The Bill includes provisions to remove the existing lacunae in the Act and streamlines some of the existing provisions for the better working and administration of the Act. The Bill was introduced in the Rajya Sabha on 14 August 1997. At present the Bill stands referred to the Standing Committee on Home Affairs for its consideration and report to the Parliament.

Since it is felt essential to bring in a few more important changes in the Companies Act, 1956 for better corporate governance and protection of investors, Companies (Second Amendment) Bill, 1999 was introduced in the Lok Sabha on 23 December 1999. The salient features of this Bill are : (i) to provide a minimum paid up capital of Rs one lakh for private company and Rs five lakh for public limited company; (ii) to reduce the period for disbursing dividend/interim dividend to shareholders from 42 days to 30 days; (iii) to provide that SEBI be entrusted with powers, with regard to all matters relating to public issues and transfers including power to prosecute defaulting companies and their directors; (iv) to provide that public listed companies with paid up capital of Rs five crore or more shall be required to set up an Audit Committee of the Board of Directors as a measure for better corporate governance; (v) to require companies with paid up capital of Rs 10 lakh or more and which do not have whole-time Secretary in their employment to submit a Secretarial Compliance Certificate from Company Secretary in whole-time practice; (vi) to provide that any offer of shares or debentures to more than 50 persons shall be treated as public issue with suitable modification in the case of public financial institutions and non-banking financial companies; (vii) to prescribe voting through postal ballot in case of only important items with effect from such date as may be notified

by the Government to ensure good corporate governance; (viii) to empower the Comptroller and Auditor General of India to appoint the auditors in respect of Government companies and also to provide that shareholders of such companies will fix their remuneration in annual general meeting; (ix) Debarring (from becoming directors in other public companies for five years) the Directors of public company which does not file annual accounts and annual returns continuously for three years; (x) to provide that no person can hold office of director in more than fifteen companies at a time; (xi) to provide penal provisions for increased fine for offences under the Act; (xii) to provide that a shareholder of the company be disqualified for appointment as auditor of the company; (xiii) to delete the provisions relating to managing agents, secretaries and treasurers as they have become redundant after abolition of the system of managing agent, secretaries and treasurers; (xiv) to provide that private limited companies shall be excluded in reckoning the number of companies which an auditor can audit; and (xv) to include provisions for protecting interests of small deposit holders in a company.

The Bill has also been referred to the standing committee on Home Affairs for its consideration and report to the Parliament.

COMPANIES AT WORK

The number of joint stock companies, both Government and non-Government, incorporated under the Companies Act, 1956 and at work in India as on 31 March 2000 was 5,45,707. Of these 5,42,434 were limited by shares, 449 with unlimited liability and 2,824 were limited by guarantee or association not for profit. The 5,42,434 companies limited by shares had an estimated paid-up capital of Rs 2,96,071.46 crore. These comprised 73,862 public limited companies and 4,68,572 private limited companies with estimated paid-up capital of Rs 2,01,057.13 crore and Rs 95,014.33 crore respectively. Table 13.6 shows the number of companies and paid-up capital (Government and non-Government taken together).

NEW REGISTRATIONS

During 1999-2000, 31,289 companies limited by shares were registered under the Companies Act. These include 28 Government companies and 31,261 non-Government companies. 22 companies with unlimited liability and 97 companies with liability limited by guarantee and association not for profit were also registered. Of the 31,289 companies limited by shares registered during the period, 2,453 were public limited companies with an aggregate authorised capital of Rs 14,692.09 crore and 28,836 were private limited companies with an aggregate authorised capital of Rs 7,019.49 crore.

COMPANIES WHICH CEASED TO WORK

During 1999-2000, 720 companies consisting of 121 public limited and 599 private limited went into liquidation or otherwise became defunct or ceased to work and were struck off under Section 560(5) of the Companies Act, 1956.

CAPITAL ISSUES

During 1998-99, five non-Government non-financial public limited companies delivered copies of prospectuses under Section 60 of the Companies Act to the Registrar of Companies, for raising an amount of Rs 43.67 crore from the public. Of this Rs 33.36 crore was offered to the public, while the balance of Rs 10.31 crore, was earmarked for firm allotment to promoters, directors and others. 8.1 per cent of the amount issued to the public was underwritten. During 1999-2000, 42 non-Government non-financial public limited companies delivered copies of prospectuses to the Registrar of Companies for raising an amount of Rs 1,885.02 crore from the public.

TABLE 13.6 : COMPANIES AT WORK

As on	Companies Limited by Shares					
	Public Limited		Private		Limited	Companies with unlimited liability (Number)
	Number	Paid-up Capital (Rs crore)	Number	Paid-up Capital (Rs crore)		Companies limited by guarantee & associations not for profit (Number)
31 March 1999 ¹	71,033	1,83,998.23	4,40,957	83,689.20	427	2,727
31 March 2000 ¹	73,862	2,01,057.13	4,68,572	95,014.33	449	2,824

¹ Provisional

14 Planning

PLANNING in India derives its objectives and social premises from the Directive Principles of State Policy enshrined in the Constitution. Public and private sectors are viewed as complementary. The private sector covers, besides organised industry, small-scale industries, agriculture, trade and housing, construction and related areas. Individual effort and private initiative are considered necessary and desirable in the national endeavour for development with optimum voluntary cooperation. Although in the past economic planning did envisage a growing public sector with massive investments in basic and heavy industries, now the emphasis on the public sector is less pronounced and the current thinking on planning in the country, in general, is that it should increasingly be of an indicative nature.

The Prime Minister Shri Atal Bihari Vajpayee is the Chairman of the Planning Commission and Shri K.C.Pant, Deputy Chairman. The Members of the Planning Commission include Shri Jaswant Singh, Minister of External Affairs; Shri Yashwant Sinha, Minister of Finance; Shri Arun Shourie, Minister of State for Planning, Statistics and Programme Implementation and Administrative Reforms; Shri Montek Singh Ahluwalia, Dr S.P. Gupta, Dr D.N. Tiwari, Shri Som Pal and Dr K. Venkatasubramaniam.

FIRST PLAN

Keeping in view the large-scale import of foodgrains in 1951 and inflationary pressures on the economy, the First Plan (1951-56) accorded the highest priority to agriculture including irrigation and power projects. About 44.6 per cent of the total outlay of Rs 2,069 crore in the public sector (later raised to Rs 2,378 crore) was allocated for this purpose. The Plan aimed at increasing the rate of investment from five to about seven per cent of national income.

SECOND PLAN

The Second Five Year Plan (1956-57 to 1960-61) sought to promote a pattern of development, which would ultimately lead to the establishment of a socialistic pattern of society in India. Its main aims were (i) an increase of 25 per cent in the national income; (ii) rapid industrialisation with particular emphasis on the development of basic and heavy industries; (iii) large expansion of employment opportunities; and (iv) reduction of inequalities in income and wealth and a more even distribution of economic power. The Plan aimed at increasing the rate of investment from about seven per cent of the national income to 11 per cent by 1960-61. It laid special emphasis on industrialisation, increased production of iron and steel, heavy chemicals including nitrogenous fertilizers and development of heavy engineering and machine-building industry.

THIRD PLAN

The Third Plan (1961-62 to 1965-66) aimed at securing a marked advance towards self-sustaining growth. Its immediate objectives were to: (i) secure an increase in the national income of over five per cent annum and at the same time ensure a pattern of investment which could sustain this rate of growth in the subsequent Plan periods; (ii) achieve self-sufficiency in foodgrains and increase agricultural production to meet the requirements of industry and exports; (iii) expand basic industries like steel, chemicals, fuel and power and to establish machine-building capacity so that the requirements of further industrialisation could be met within a period of about 10 years mainly from the country's own resources; (iv) utilise fully the manpower resources of the country and ensure substantial expansion in employment opportunities; and (v) establish progressively greater equality of opportunity and bring about reduction in disparities of income and wealth and a more even distribution of economic power. The Plan aimed at increasing the national income by about 30 per cent from Rs 14,500 crore in 1960-61 to about Rs 19,000 crore by 1965-66 (at 1960-61 prices) and per capita income by about 17 per cent from Rs 330 to Rs 385 over the same period.

ANNUAL PLANS

The situation created by the Indo-Pakistan conflict in 1965, two successive years of severe drought, devaluation of the currency, general rise in prices and erosion of resources available for Plan purposes delayed the finalisation of the Fourth Five Year Plan. Instead, between 1966 and 1969, three Annual Plans were formulated within the framework of the draft outline of the Fourth Plan.

FOURTH PLAN

The Fourth Plan (1969-74) aimed at accelerating the tempo of development and reducing fluctuations in agricultural production as well as the impact of uncertainties of foreign aid. It sought to raise the standard of living through programmes designed to promote equality and social justice. The Plan laid particular emphasis on improving the condition of the less privileged and weaker sections especially through provision of employment and education. Efforts were also directed towards reduction of concentration of wealth, income and economic power to promote equity.

The Plan aimed at increasing net domestic product (at 1968-69 factor cost) from Rs 29, 071 crore in 1969-70 to Rs 38, 306 crore in 1973-74. Average annual compound rate of growth envisaged was 5.7 per cent.

FIFTH PLAN

The Fifth Plan (1974-79) was formulated against the backdrop of severe inflationary pressures. The major objectives of the Plan were to achieve self-reliance and adopt measures for raising the consumption standard of people living below the poverty-line. This Plan also gave high priority to bringing

inflation under control and to achieving stability in the economic situation. It targeted an annual growth rate of 5.5 per cent in national income. Four Annual Plans pertaining to the Fifth Plan period were completed. It was subsequently decided to end the Fifth Plan period with the close of Annual Plan 1978-79 and initiate work for a new Plan for the next five years with new priorities and programmes.

SIXTH PLAN

Removal of poverty was the foremost objective of the Sixth Plan (1980-85). The strategy adopted was to move simultaneously towards strengthening infrastructure for both agriculture and industry. Stress was laid on tackling inter-related problems through a systematic approach with greater management, efficiency and intensive monitoring in all sectors and active involvement of people in formulating specific schemes of development at the local level and securing their speedy and effective implementation.

The actual expenditure in the Sixth Plan stood at Rs 1,09,291.7 crore (current price) as against the envisaged total public sector outlay of Rs 97,500 crore (1970-80 prices) accounting for a 12 per cent increase in nominal terms. Average annual growth rate targeted for the Plan was 5.2 per cent.

SEVENTH PLAN

The Seventh Plan (1985-90) emphasised policies and programmes, which aimed at rapid growth in foodgrains production, increased employment opportunities and productivity within the framework of basic tenets of planning, namely, growth, modernisation, self-reliance and social justice. Foodgrains production during the Seventh Plan grew by 3.23 per cent as compared to a long-term growth rate of 2.68 per cent between 1967-68 and 1988-89 and a growth rate of 2.55 per cent in the eighties due to overall favourable weather conditions, implementation of various thrust programmes and concerted efforts of the Government and the farmers. To reduce unemployment and consequently, the incidence of poverty, special programmes like *Jawahar Rozgar Yojana* were launched in addition to the existing programmes. Due recognition was accorded to the role small scale and food processing industries can play in this regard. The total expenditure during the entire Seventh Plan stood at Rs 2,18,729.62 crore (current prices) as against the envisaged total public sector outlay of Rs 1,80,000 crore, resulting in a 21.52 per cent increase in nominal terms. During this Plan period, the Gross Domestic Product (GDP) grew at an average rate of 5.6 per cent exceeding the targeted growth rate by 0.6 per cent.

ANNUAL PLANS

The Eighth Five Year Plan (1990-95) could not take off due to the fast-changing political situation at the Centre. The new Government, which assumed power at the Centre in June 1991, decided that the Eighth Five Year Plan would commence on 1 April 1992 and that 1990-91 and 1991-92 should be treated

as separate Annual Plans. Formulated within the framework of the Approach to the Eighth Five Year Plan (1990-95), the basic thrust of these Annual Plans was on maximisation of employment and social transformation.

EIGHTH PLAN

The Eighth Five Year Plan (1992-97) was launched immediately after the initiation of structural adjustment policies and macro stabilisation policies, which were necessitated by the worsening Balance of Payments position and inflation during 1990-91. The various structural adjustment policies were introduced gradually so that the economy could be pushed to a higher growth path and improve its strength and thus prevent Balance of Payments and inflation crisis in future. The Eighth Plan took note of some of these policy changes, which were to come about due to these reforms. The Plan aimed at an average annual growth rate of 5.6 per cent and an average industrial growth rate of about 7.5 per cent. These growth targets were planned to be achieved with relative price stability and substantial improvement in the country's Balance of Payments.

Some of the salient features of economic performance during the Eighth Five Year Plan indicate, among other things, (a) faster economic growth, (b) faster growth of manufacturing sector and agriculture and allied sectors, (c) significant growth rates in exports and imports, improvement in trade and current account deficit, and significant reduction in the Central Government's fiscal deficit. However, a shortfall in expenditure in the Central sector due to inadequate mobilisation of internal and extra budgetary resources by the PSUs and various departments was witnessed. In the States sector, the reason for shortfall was lack of mobilisation of adequate resources due to deterioration in the balance of current revenues, erosion in the contribution of state electricity boards and state road transport corporations, negative opening balance, mounting non-Plan expenditure and shortfalls in the collection of small savings, etc.

The total expenditure during the entire Eighth Plan stood at Rs 4,95,669 crore (by taking 1996-97(RE) as actual) at current prices as against envisaged total public sector outlay of Rs 4,34,100 crore (1991-92 prices) resulting in a 14.2 per cent increase in nominal terms. The Eighth Plan envisaged an annual average growth rate of 5.6 per cent. Against this an average annual growth rate of 7.2 per cent was achieved during the last four years of the plan period.

NINTH PLAN

The Ninth Five Year Plan (1997-2002) was launched in the fiftieth year of India's Independence. 23 Steering Committees and 116 Working Groups were set up for the formulation of the Ninth Five Year Plan. This preparatory work culminated in the finalisation of the "Approach Paper to the Ninth Plan" was approved unanimously by the National Development Council. The salient features of the Approach Paper were: (i) a targeted GDP growth rate of 7 per cent per annum for the Ninth Plan period; (ii) Emphasis on the seven

identified Basic Minimum Services (BMS) with additional Central Assistance earmarked for these services with a view to obtain a complete coverage of the population in a time-bound manner. These include provision of safe drinking water, availability of primary health service facilities, universalisation of primary education, public housing assistance to shelter-less poor families, nutritional support to children, connectivity of all villages and habitations and streamlining of the public distribution system with a focus on the poor; (iii) in pursuing a policy of fiscal consolidation, the focus was on sharp reduction in the revenue deficit of the Government, including Centre, States and PSUs through a combination of improved revenue collections and control of inessential expenditures, particularly with regard to subsidies and through recovery of user charges; (iv) decentralisation of planning and implementation through greater reliance on States and *Panchayati Raj* institutions.

The Government reviewed the draft Ninth Plan. The Plan document was revised to incorporate the Prime Minister's Special Action Plan (SAP) in the following areas: (a) Doubling of food production and making India hunger-free in 10 years; (b) Rapid improvement in physical infrastructure; (c) National Water Policy; (d) Social Infrastructure: Rural Housing, Urban Housing, Health Care Services, Education, Urban Water Supply and Sanitation; Rural Water Supply and Sanitation and; (e) Information Technology.

The specific objectives of the Ninth Plan as endorsed by the National Development Council in its 48th Meeting are: (i) priority to agriculture and rural development with a view to generating adequate productive employment and eradication of poverty; (ii) accelerating the growth rate of the economy with stable prices; (iii) ensuring food and nutritional security for all, particularly the vulnerable sections of society; (iv) providing the basic minimum services of safe drinking water, primary health care facilities, universal primary education, shelter, and connectivity to all in a time-bound manner; (v) containing the growth rate of population; (vi) ensuring environmental sustainability of the development process through social mobilisation and participation of people at all levels; (vii) empowerment of women and socially disadvantaged groups such as Scheduled Castes, Scheduled Tribes and Other Backward Classes and Minorities as agents of socio-economic change and development; (viii) promoting and developing people's participatory institutions like *Panchayati Raj* institutions, cooperatives and self-help groups; and (ix) strengthening efforts to build self-reliance.

The Ninth Plan envisages an average target growth rate of 6.5 per cent per annum in GDP as against the growth rate of 7 per cent approved earlier in the Approach Paper. The scaling down of the target was necessitated by the changes in the national as well as global economic situation in the first two years of the Ninth Plan. During 1997-98, the first year of the Ninth Five Year Plan there was a slow down in the growth rate of Indian economy to 5.1 per cent. In the Second year of the Plan, the economy grew by about 6.8 per cent and anticipated growth rate for 1999-2000 would be about 5.9 per cent.

The Ninth Plan assumes an Incremental Capital-Output Ratio (ICOR) of 4.3, which implies an assumption of average domestic savings and investment rates of 26.1 per cent and 28.2 per cent of GDP, respectively. The Plan proposes an investment of Rs 2,171 thousand crore during the period 1997-2002 at 1996-97 prices, most of which (92.6 per cent amounting to Rs 2,011 thousand crore) could be financed from domestic resources. Investment in the public sector would be Rs 726 thousand crore constituting about 33 per cent of the total investment as against the level of 34.3 per cent realised during the Eighth Plan period. The public sector outlay is proposed at Rs 8,59,200 crore, out of which the Central Plan outlay would be Rs 4,89,361 crore, which includes provision to implement the additional requirements of Special Action Plans. The Central Budgetary Support to the Plan is targeted at Rs 3,74,000 crore at 1996-97 prices.

ACHIEVEMENTS

In the 47 years (1950-51 to 1997-98), since India became a Republic, the National Income-Net National Product (NNP) has increased 6.6 times from Rs 40,454 crore to Rs 2,67,551 crore implying a compound growth rate of 4.1 per cent per annum. The per capita income has increased 2.9 times from Rs 1,127 to Rs 3,212 registering a compound growth of 2.3 per cent per annum. The Gross Domestic Product (GDP) has increased 7.3 times from Rs 42,871 crore to Rs 3,11,766 crore with an annual compound growth rate of 4.3 per cent—all the aggregates measured at factor-cost at 1980-81 prices. The Advance estimates of National Income (1998-99) brought out by the Central Statistical Organisation, the NNP, the per capita income and GDP for 1998-99 project a growth rate of 5.7 per cent, 4 per cent and 5.8 per cent respectively over the quick estimates of 1997-98.

Despite the successive drought conditions that prevailed during the first three years of the Seventh Plan (1985-90), the economy fared exceptionally well during the Plan period with a growth rate of GDP at six per cent per annum as against the target of five per cent. The growth momentum was maintained during the Eighth Five Year Plan (1992-97), which was launched at a time when the country was facing a severe financial crisis and critical balance of payments position. Important policy reforms have been made since June 1991 towards liberalisation and structural adjustments of the economy, and these measures have shown results.

The Ninth Plan (1997-2002) envisages an annual average growth rate of 6.5 per cent for the economy as a whole. As against this, the rate of growth achieved during the first three years of the Ninth Plan are 5 per cent, 6.8 per cent and 5.9 per cent as per the provisional estimates (1997-98), quick estimates (1998-99), and advanced estimates (1999-2000) of National Accounts Statistics respectively.

The annual rate of inflation as measured by the Wholesale Price Index (WPI) declined from 18.6 per cent at the end of 1991-92 to 7 per cent at the

end of 1992-93. Though it went up to 10.8 per cent at the end of 1993-94 and stood at 10.4 per cent at the end of 1994-95, it has remained at single-digit level during the last four years. The Ninth Plan envisages a reasonable degree of price stability. The average inflation rate measured by changes in WPI was 4.8 per cent in 1997-98 and 6.9 per cent in 1998-99 and declined to around 3 per cent in the first nine months of 1999-2000.

Agriculture: Agriculture and allied activities make the single largest contribution to the Gross Domestic Product, accounting for almost 27 per cent of the total and the sector provides employment to around 65 per cent of the total work force and contributes 18.5 per cent of total export. Agricultural growth has direct impact on poverty eradication. The share of agricultural products in the total export earnings is substantial. Agricultural growth is also an important factor in containing inflation, raising agricultural wages and employment generation. Large investments were made for the development of research system under the aegis of the Indian Council of Agricultural Research and State Agricultural Universities. Simultaneously, a well-designed extension work was created for disseminating new technologies to the cultivators. In terms of growth, the performance has been quite impressive in the post-Independence period as compared to the pre-Independence period.

Agriculture sector registered an annual growth rate of about 3.9 per cent during the Eighth Plan period. The food grains production, which was 168.4 million tonnes in the terminal year of the Seventh Plan, increased to 199.4 million tonnes in the terminal year (1996-97) of the Eighth Plan. The Ninth Plan envisages a growth rate of 4.5 per cent per annum in agriculture sector. For achieving this objective a Regionally Differentiated Strategy, based on Agro-climatic Regional Planning has been proposed to be implemented. Against the Ninth Plan target of 234 million tonnes of food grains, achievements during the first three years, stands at 192.26, 203.04 and 201.56 million tonnes respectively.

The production of oilseeds during 1999-2000 is estimated to be 21.54 million tonnes, a sharp decline from 25.21 million tonnes during 1998-99. Cotton production is also estimated to be lower at 10.54 million bales as compared to 12.18 million bales during the previous year. Similarly sugarcane production is estimated to be lower at 292.64 million tonnes compared to 305 million tonnes during the last year.

On the irrigation side the potential created in major, medium and minor irrigation schemes increased from 22.6 million hectares in 1950-51 to 26.26 million hectares at the end of the First Plan, 29.08 million hectares by the end of Second Plan, 33.57 million hectares at the end of Third Plan and 37.1 million hectares by 1966-69. At the end of 1969-74, the potential created was 44.20 million hectares, by 1979-80 it touched 56.61 million hectares and by 1984-85 it reached 65.22 million hectares. The potential created by 1989-90 was 76.53 million hectares, whereas in 1991-92 it was 81.09 million hectares. The anticipated potential creation and its utilisation by the end of the Eighth Plan,

i.e., by 1996-97, are 89.56 million hectares and 80.75 million hectares respectively.

Power: Under the Power sector, total installed capacity (including non-utility), which was only 2,301 MW in 1950, increased to 97,899 MW (including non-utility of 12,079 MW) by the end of March 1997. The cumulative capacity in the public utilities as on March 2000 in the country has reached 97,837 MW (provisional) comprising 23,816 MW as hydro, 70,186 MW as thermal, 2,680 MW as nuclear and 1,155 MW as wind energy. A capacity addition of 40,245 MW in the public utilities has been targeted for the Ninth Five Year Plan period (1997-2002) and against this achievement so far during the first three years of the Plan period were 3,226 MW, 4,242 MW and 4,507 MW respectively.

Under the rural electrification programme, 4.99 lakh villages had been electrified out of 5.87 lakh villages (as per 1991 Census) by the end of the Eighth Plan, achieving 85 per cent level of electrification. Till February 2000, 5.06 lakh (86.23 per cent) villages were electrified.

Education: The National Policy on Education (NPE), 1986 and its Programme of Action (POA) envisages that free and compulsory education of satisfactory quality should be provided to all children up to the age of 14 years before the commencement of the 21st century. The target for the Ninth Five Year Plan was fixed under three broad parameters-Universal Access, Universal Retention and Universal Achievement. In order to achieve Universalisation of Elementary Education (UEE) by 2000 AD, the following key strategies were worked out in consultation with States/UTs: (1) overcome the problems of school drop-outs and lay emphasis on retention; (2) shift focus from educationally backward States to educationally backward districts; (3) provide universal access to minimum levels of learning (MLL) for enhancement of learners' achievements; (4) improve school effectiveness, teacher competence, training and motivation; and (5) decentralisation of planning and management through *Panchayati Raj* Institutions (PRIs)/Village Education Committees (VECs) and stress on participative process.

Major initiatives have been taken up both for qualitative and quantitative improvement of Elementary Education in the country. These include Operation Black Board, Non-formal Education Programme, Teachers Education, District Primary Education Programme (DPEP), Minimum levels of learning, Reorganisation and Restructuring of Teacher Education, Nutritional support to primary education (mid-day meals) and improvement of school enrolment and quality of basic education.

As a result, improved performance of the UEE programmes over the year would be evident. The number of primary schools (Class I to V) has increased from 5.38 lakh in 1950-51 to 18.32 lakh in 1997-98 and upper primary schools (Class VI to VIII) from 0.86 lakh in 1950-51 to 12.02 lakh in 1997-98. Girls' enrolment has grown at primary stages from 5.4 million in 1950-51 to 47.4 million in 1997-98 and that of upper primary stages from 0.5 million to 15.87 million. The rate of growth of enrolment of girls has been higher

than that of boys. Girls enrolment ratio at the primary level has increased from 24.80 in 1950-51 to 81.20 in 1997-98. Recent trends indicate that gender gap in enrolment at the primary level is narrowing down, albeit gradually. Drop-out rates for girls at primary level has steadily come down to 41.34 in 1997-98 from 70.90 in 1960-61. Under the Non-Formal Education (NFE), the emphasis during the Ninth Plan period is on consolidation of the existing programmes in a number of States/UTs. Another 85 voluntary agencies have been sanctioned 9,485 NFE centres in the current year.

Under Adult Education, Total Literacy Campaign (TLC) is the principal strategy adopted by the National Literacy Mission (NLM) for eradication of illiteracy in the country. The literacy campaigns are area specific, time-bound and are developed through voluntary, cost-effective and outcome-oriented methods. The NLM aims at providing functional literacy to persons in the age-group of 15-35 years to threshold sustainable level of 75 per cent by the year 2005. So far 457 districts have been covered under TLC survey. Of these 220 districts have entered into post literacy stage and 80 districts are in the continuing education stage.

According to the National Sample Survey Organisation (NSSO) 53rd round, the percentage of literacy has increased from 52 in 1991 to 62 in 1997 and projected at 64 for 1998. The urban-rural differential in literacy ratio has also shown a marked decline of 4 per cent, this is faster than in any previous decade. The rise in female literacy between 1991 and 1997 has been 11 per cent whereas the male literacy rate has risen by 9 per cent for the same period. This is a tribute to the special emphasis laid by NLM on women's participation. According to the NSSO projections the literacy rate in the country will be 68 per cent by 2001.

There has been considerable expansion of higher education with its role for economic and social development. The Government took concrete measures to reform higher education and initiated steps for restructuring the UGC to achieve this. At the time of the Independence there were 20 universities and 591 colleges, while up to November 1999, the number of universities increased to 185 and the number of institutions deemed-to-be-universities was 42. At the beginning of the year 1999-2000, the total enrolment of students in universities and colleges was 74.18 lakh and that of women students was 25.74 lakh. Many emerging areas like Bio-technology, Energy Education, Electronics, Computer Application and Business Administration, etc., have been introduced to keep pace with the developed world. During the Ninth Plan, the UGC has launched new schemes under the broad headings: (a) relevance and quality, (b) access and equity, (c) moral/adult, continuing education and (d) management education and resource mobilisation. Distance education/correspondence courses are increasingly being used to enhance the access to higher education for those who cannot take up full-time traditional courses. Facilities for SCs/STs/OBCs/minorities and other deprived groups have also been specially created. The UGC has decided to establish a Very Small Aperture Transmission (VSAT) network which will act as Wide Area

Network (WAN) for the universities. The application of VSAT network includes data transfer, indirect access, video conferencing, distance learning and multimedia.

The Technical Education System enhanced its coverage and accessibility across the country to suit the needs of organised, unorganised and rural sectors, with its relevance to productivity and industrial needs. Priority is accorded to bring industrial/commercial system and educational institutions into a closer circuit of interaction and mutually supported activities. Technology Development Missions (TDMs) have contributed in this area to meeting the emerging R&D challenges of the Industry in seven generic areas. To upgrade the technical education system in the Polytechnics, two phases of a massive World Bank-aided State Sector Project has been completed with its third phase already on the anvil. A new Indian Institute of Technology has come up in Assam to serve the North-Eastern region of the country. Considering Information Technology as the future base of all academic, technical and industrial activities, the Indian Institute of Information Technology (IIIT) has been established one each at Gwalior and Allahabad.

Industry: Industrial growth after improving marginally to 6.6 per cent in 1997-98, fell to 4 per cent in 1998-99. This decline can be attributed to poor performance by the mining and manufacturing sectors. During 1999-2000, the industrial production has shown a distinct improvement. The overall industrial output grew by 6.2 per cent in April-December 1999 compared to only 3.7 per cent in April-December 1998. The improvements are particularly noticeable in manufacturing which grew at 6.7 per cent. As per use-based classifications, basic goods, intermediate goods and consumer goods achieved higher growths in 1999-2000, but the capital goods grew at 6.6 per cent in April-December 1999 as compared to 11.9 per cent in the same period during the previous year. Six key core and infrastructure industries including electricity, crude oil, refinery, coal, steel and cement, having a weightage of 26.7 per cent in the overall Index of Industrial Production (IIP), grew at 8.2 per cent in April-December 1999 compared to 2.8 per cent in April-December 1998. The factors responsible for the industrial recovery include: (i) Good harvest and record production of foodgrains in 1998-99 resulting in consumer rebound through higher rural incomes; (ii) Strong revival of capital markets, higher growth of non-food credit and higher volumes of disbursements have injected greater investment in industry; (iii) Low inflation and increased demand, resulting in improved capacity utilisation and larger industrial output; and (iv) Enabling policies like fiscal package for housing sector, rationalisation of excise and custom duty structures, removal of custom duty anomaly on steel, extension of the scope of Tax holiday awarded to infrastructure industries, amendments in the Income Tax Act for facilitating mergers and amalgams, rural industrialisation, specific measures for small scale sector, etc., announced by the Government in 1999-2000 Union Budget. In addition, enhanced overseas demand for industrial products due to strong pick-up by exports, assisted by revival in East Asian economies and more buoyant global economic conditions

also helped in achieving higher growth rates. In the post-liberalisation period between 1991-99, a total of 10,238 foreign direct investment proposals and 6,216 foreign technology agreements has been approved, involving an investment of approximately Rs 2,09,663 crore.

Panchayati Raj Institutions: The passage of the 73rd Constitution Amendment Act, 1992 marked a new era in the federal democratic set-up of the country by giving constitutional status to the *Panchayati Raj Institutions* (PRIs). Following the enactment of the Act, almost all the States/Union Territories barring Jammu & Kashmir, Arunachal Pradesh, NCT of Delhi passed appropriate legislations and conducted elections. *Panchayati Raj Institutions* and *Panchayati Raj Bodies* have been set up in almost all the States with a few exceptions.

The provisions of the *Panchayats* (Extension to the Scheduled Areas) Act, 1996 which came into force on 24 December 1996 extended *Panchayats* to the tribal areas of eight States namely Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Maharashtra, Madhya Pradesh, Orissa and Rajasthan. It aimed at enabling tribal society to assume control over their own destiny and preserve their traditional rights over natural resources.

Article 243 (I) of the Constitution provides for the setting up of State Finance Commissions (SFCs) to review the financial position of *Panchayats* and to make recommendations regarding principles governing distribution of net taxes between State Governments and the *Panchayats*, and assignment of taxes and grant-in-aid to *Panchayats*. All the States excepting Arunachal Pradesh and Bihar have set up their respective SFCs. The SFCs of all these States excepting Sikkim and Goa have submitted their reports to the respective State Governments. Some of the States have accepted the recommendations of the SFCs *in toto*, while in some other, the SFC reports have either been partially accepted or are under scrutiny. In some States like Kerala, the second SFC has also been constituted.

Article 243 (G) of the 73rd Constitution Amendment Act endows the PRIs with the requisite financial and administrative powers to enable them to function as effective institutions of local self-Government. It envisages the establishment of a democratic decentralised development process through people's participation in decision making, in implementation and in the delivery process. In order to achieve this and to ensure economic development and social justice, the Constitution provides for devolution of powers and responsibilities upon *Panchayats* at appropriate levels in 29 Subjects as listed in the Eleventh Schedule. In some States like Kerala, Madhya Pradesh, Uttar Pradesh and Tamil Nadu, the process of devolution has been carried out effectively with the transfer of funds, functions and functionaries to the PRIs in respect of selected items while in other States the process is on.

The State Governments are required to set up District Planning Committees (DPCs) as envisaged under Article 243 (Z) and (D) of the 74th

Constitution Amendment Act to facilitate the process of decentralised planning. DPCs are to be set up in each district to prepare composite plans covering both urban and rural areas.

The year 1999-2000 was declared as 'Year of the Gram Sabha' by the Government of India in recognition that the Gram Sabha is potentially the most significant institution for participatory democracy and decentralisation. The State Governments have been requested to initiate measures to energise Gram Sabhas. To ensure greater transparency and accountability, attention of State Governments have also been drawn to the importance of social audit in implementation of development programmes especially rural development programmes through Gram Sabha.

In the light of the 73rd Constitutional Amendment Act, the District Rural Development Agencies (DRDAs) are also being restructured to suit the changed scenario. DRDAs would now have to work under the overall control and supervision of the Zilla Parishads. In order to make the decentralised development process a success, a time-bound training programme, has been initiated for the new entrants into the PRIs so as to make them familiar with the implementation of various programmes, technologies and other information.

PROGRAMME IMPLEMENTATION

The Ministry of Statistics and Programme Implementation closely monitors implementation of Central Sectors Industrial and Infrastructure projects costing over Rs 20 crore each. The Ministry through its prompt facilitative action and computerised network National Informatics Centre and internet facilities is ensuring effective implementation of projects and programmes. The Ministry presents a realistic picture of the implementation process, takes up remedial measures to minimise time and cost overruns in projects and brings systematic improvements in the system of approval, planning, implementation and monitoring.

There were 472 projects on the monitoring system as on March 2000. The classifications of the projects in three categories (mega, major and medium) are given below :

Projects Classification	Total Nos.	Total Anticipated Cost Rs (in crore)	Percentage of Total cost
Mega Projects (Above Rs 1,000 crore)	34	1,00,073	59.51
Major Projects (Rs 100 crore to Rs 1,000 crore)	165	55,204	32.82
Medium Projects (Rs 20 crore to Rs 100 crore)	273	12,893	7.67
Total	472	1,68,170	100

The Ministry of Statistics and Programme Implementation (Programme Implementation Wing) is entrusted with the monitoring of monthly performance of the country's eleven industrial infrastructure sectors, viz., Power, Coal, Steel, Railways, Ports, Roads, Civil Aviation, Telecommunications, Fertilizers, Cement and Petroleum for submission, *inter-alia*, to the Prime Minister's Office and the Cabinet Secretariat. The growth rate in respect of each infrastructure sector since 1996-97 and the production/performance during 1999-2000 is given in the table 14.1.

MONITORING OF TWENTY-POINT PROGRAMME

Alleviation of poverty and improving the quality of life of the people, specially of those who are below the poverty-line, have been the prime objective of planned development in the country. In recent years, the meaning of economic development has shifted from growth in per capita income to that of expansion of opportunities. Expansion of human capability can be, broadly, seen as the central features of the process of development. The Government of India through different programmes/schemes is helping its citizens to expand their capabilities. A package of programmes comprising schemes relating to poverty alleviation, employment generation, education and health, etc., called Twenty-Point Programme (TPP) has been in operation since 1975. This package was restructured twice in 1982 and 1986. The present programme, known as TPP-1986, has been in operation since 1 April 1987 in its present form. It is to be noted that with globalisation of Indian economy and the adoption of market liberalization process, the TPP-86 provides much needed safety net to the deprived and adversely affected population. The Twenty-Point Programme thus has a vital role to play to ensure growth with equity and social justice.

Essence of Twenty Point Programme - 86 : The 20-Point Programme forms an integral part of both the plan and non-plan heads of the State Governments/UT Administrations and Central Ministries/Departments. The outlay for different items under the programme are derived from the relevant plan heads under State Governments/UT Administrations and nodal ministries/departments at the Centre. Some schemes like family welfare programme are funded entirely by the Central Government, while other programmes like *Swarnajayanti Gram Samridhi Yojana* and *Indira Awas Yojana* are jointly financed by the Centre and the States.

The departments/ministries concerned with the subjects of TPP'86 set the annual targets in consultation with the states. The Ministry of Statistics and Programme Implementation monitors the implementation of the 20-Point Programme. Under TPP'86, there are 119 items identified for monitoring; 54 items are monitored on the basis of evaluatory criteria and 65 items are amenable to physical targetting/monitoring. Out of the 65 items, 20 items are being monitored on monthly basis during the current year. The programme is monitored on monthly, half-yearly and annual basis.

The All-India performance from 1997-98 to 1999-2000 of the items under the Twenty-Point Programme is given in the table 14.2.

TABLE 14.1 : ANNUAL GROWTH RATE OF INDUSTRIAL INFRASTRUCTURE SECTORS

Sectors	1996-97 per cent	1997-98 per cent	1998-99 per cent	1999-2000 per cent	Annual Production Performance 1999- 2000 (provisional)
1. Power Generation "	3.8	6.6	6.6	7.1	480,011 (BU)
2. Coal Production	5.8	3.6	-2.0	3.0	298,980 (MT)
3. Finished Steel Production	1.6	0.6	-1.5	12.5	27,821 (MT)
4. Railway Revenue Earning Goods Traffic	4.6	5.0	-2.0	8.4	456,310 (MT)
5. Cargo Handled at Major Ports	5.5	10.6	0.1	8.0	271,872 (MT)
6. Telecommunications					
a) Net addition in Switching Capacity	19.7	13.0	36.1	40.2	67,17,317 (Lines)
b) Provision of New (Net) Tel. connections	17.5	27.1	16.4	29.7	49,17,659 (Nos.)
c) Village Public Telephones	74.1	-24.4	-13.5	-8.3	33,985 (Nos.)
7. Cement Production	9.5	9.1	5.6	14.0	100.24 (MT)
8. Fertilizer Production					
a) Nitrogen	-2.0	17.3	3.9	4.1	10,910 (MT)
b) Phosphate	-0.1	16.4	3.1	7.1	3,364 (MT)
9. Petroleum					
a) Crude Oil Production	-8.6	2.8	-2.8	-2.2	32,005 (MT)
b) Refinery Throughput	6.9	3.6	5.2	25.3	85,894 (MT)
10. Civil Aviation					
a) Export Cargo Handled	-	-0.2	-4.4	10.8	3,09,256 (MT)
b) Import Cargo Handled	-	1.4	-2.4	16.2	1,60,642 (MT)
c) Passengers Handled at International Terminals	-	3.1	0.0	0.0	118.05 (lakh PAX)
d) Passengers handled at Domestic Terminals	-	-2.8	0.3	7.4	153.18 (lakh PAX)
11. Road					
a) Upgradation of National Highways	-11.7	-34.4	47.6	68.6	1,374 (km)
b) Exp. Incurred on National Highways	123.5	12.8	28.9	87.9	1,909 (Rs in crore)

BU-Billion Unit

MT-Million Tonnes

MT-Metric Tonnes

TABLE 14.2 : ALL INDIA PERFORMANCE OF TWENTY-POINT PROGRAMME
(From 1997-98 to 1999-2000)

Sl. No.	Point No.	Items	Unit	1997-98			1998-99			1999-2000		
				Target	Achievement	Per cent	Target	Achievement	Per cent	Target	Achievement	Per cent
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	1B	Jawahar Rozgar Yojana¹ @	Lakh									
2	5A	Distribution of Surplus Land	000 Acre	3864.9	4059.2	105.0	3964.8	3804.8	96.0	3041.0	1520.8	50.0
3.	7A	Drinking Water Prob. (Vlg.)	Nos.	52.3	37.4	72.0	65.6	25.4	39.0	35.9	9.1	25.0
4	8A	Community Health Centres	Nos.	99613.0	117840.0	118.0	1,04,902.0	112187.0	107.0	60051.0	40354.0	58.0
5	8B	Primary Health Centres (PHC)	Nos.	206.0	31.0	15.0	729.0	112.0	15.0	341.0	73.0	21.0
6	8D	Immunisation of Children ² @@	Lakh Nos	596.0	109.0	18.0	381.0	325.0	85.0	254.0	129.0	51.0
7.	9C	ICDS Blocks Oprl. (Cum) \$	Nos	255.5	250.1	90.0	251.2	235.3	94.0	206.0	175.6	85.0
8	9D	Anganwadies (Cum) \$	000 Nos	3818.0	3835.0	100.0	3882.0	3882.0	100.0	3882.0	3882.0	100.0
9.	11A	SC Families Assisted	000 Nos.	397.2	354.8	89.0	408.2	438.0	107.0	441.2	479.5	109.0
10.	11B	ST Families Assisted	000 Nos.	2480.0	2188.4	88.0	2425.0	2559.2	106.0	1933.3	1120.7	58.0
11.	14C	Indira Awas Yojana for SC/ST (Houses) @	000 Nos.	1096.6	1009.0	92.0	1100.7	1181.8	107.0	883.3	57.8	7.0
12	14D	EWS Houses Provided	000 Nos.	718.3	775.8	108.0	987.5	888.0	90.0	687.4	540.0	79.0
13.	14E	LIG Houses	000 Nos.	168.1	105.0	62.0	118.2	116.9	99.0	50.3	59.0	117.0
14.	14F	Indira Awas Yojana @ (Upgradation of Existing Houses)	000 Nos.	37.5	23.2	62.0	57.8	41.2	71.0	29.5	19.4	66.0
15.	15	Slum Improvement (Pop)	000 Nos.	1189.9	1315.5	111.0	4330.3	-	-	346.9	36.1	10.0
16.	16A	Tree Plantation	000 Nos.	1166.1	10326.3	92.0	11166.1	3344.4	77.0	3451.2	4092.3	119.0
17.	16B	Area to be covered	000 Hect	1146.8	870.6	76.0	1175.0	11542.3	103.0	11564.2	9541.6	83.0
18.	19A	Villages Electrified	Nos	3000.0	3156.0	105.0	2000.0	1588.5	135.0	1257.0	1129.0	90.0
19.	19B	Pumpsets Energised	000 Nos.	240.0	260.0	108.0	250.0	2757.0	138.0	1348.0	1305.0	97.0
20.	19C	Improved Chullahs *	000 Nos.	2258.0	1943.1	86.0	1198.0	345.9	138.0	178.3	177.7	100.0
21.	19D	Bio-gas Plants *	000 Nos.	132.2	129.9	98.0	100.7	1249.8	104.0	1230.0	787.5	64.0
								112.0	111.0	80.2	53.9	67.0

* Centrally-sponsored scheme on 100% Central share.

@ Centrally-sponsored scheme on 80:20 Centre/States Share.

@@ Lowest of the figures for DIT, Polio and ICG has been taken on the basis of data furnished by Ministry of Health & Family Welfare and States/UTs.

\$ The figures as given by the D/o Women & Child Dev./M/o Human Resource Development has been adopted

Note : There may be marginal variation in the percentage achievement reflected in this statement as compared to the statements of individual items for rounding of figures.

¹ Replaced by Jawahar Gram Samridhi Yojana from the year 1999-2000.

MEMBERS OF PARLIAMENT LOCAL AREA DEVELOPMENT SCHEME

Members of Parliament Local Area Development Scheme (MPLADS) was announced in the Parliament on 23 December 1993. Under the Scheme, each MP has a choice to suggest to the concerned District Collector, works to the tune of Rs one crore per year to be taken up in his/her constituency. The allocation of Rs one crore has since been increased to Rs two crore per MP per year with effect from 1998-99. The Members of the Rajya Sabha can select one or more districts from the state from which he/she has been elected and the nominated Members of Parliament may select one or more districts, but within one state of their choice. The Scheme is to be implemented through the District Collectors as per the guide lines issued in this regard. The Department of Programme Implementation, Government of India, has the nodal responsibility for the Scheme at the Centre.

The Scheme was initially administered by the Ministry of Rural Development. The subject was later transferred to the Department of Programme Implementation, now reorganised as the Ministry of Statistics and Programme Implementation. The salient features of the Scheme are : (a) The works under the Scheme shall be developmental in nature based on the locally-felt needs leading to creation of durable assets; (b) Purchase of inventory, equipment or revenue expenditure is not allowed under this Scheme; and (c) The funds released under the Scheme are non-lapsable.

As the Scheme was announced in December 1993, only a token amount of Rs five lakh per MP was released by the then Ministry of Rural Development for 1993-94. These funds were released to the State Governments. Thereafter, funds at the rate of Rs one crore per year per MP up to 1997-98, and at the rate of Rs two crore per MP from 1998-99 are being released directly to the District Collector. An aggregate amount of Rs 5,016.80 crore has been released under MPLAD Scheme up to 31 March 2000 out of which about Rs 3,221.21 crore is reported to have been spent which is about 64.2 per cent of the funds released. Statewise releases and actual expenditure incurred are given in table 14.3.

The Scheme has had a very good impact. A variety of works has been taken up under the Scheme, such as construction of school buildings, hospitals, village roads, small bridges, common shelters for the old and the handicapped, buildings for cultural and sports activities, public libraries, crematorium, public toilets and tubewells. These works have contributed substantially to the well-being of the community at large.

TABLE 14.3 : SUMMARY STATEMENT FOR RELEASE/EXPENDITURE OF
LS AND RS MP'S (AS ON 31 MARCH 2000)

(Rs in lakh)

Sl. No.	Name of State/UT	1993-2000			
		Release by G.O.I	Amount sanctioned	% Sanction over Release	% Utilisation over Release
1.	Andhra Pradesh	40,345.0	36,383.0	90.2	64.3
2.	Arunachal Pradesh	1,815.0	1,620.9	89.3	72.5
3.	Assam	12,905.0	10,795.0	83.7	68.6
4.	Bihar	46,210.0	40,165.0	86.9	66.1
5.	Goa	1,665.0	1,225.1	73.6	62.5
6.	Gujarat	25,185.0	27,989.0	111.1	55.9
7.	Haryana	9,175.0	8,014.1	87.3	73.1
8.	Himachal Pradesh	4,885.0	4,461.5	91.3	73.7
9.	J & K	3,350.0	2,664.7	79.5	37.7
10.	Karnataka	28,050.0	25,043.0	89.3	64.4
11.	Kerala	17,595.0	15,253.0	86.7	55.6
12.	Madhya Pradesh	36,975.0	32,133.0	86.9	70.2
13.	Maharashtra	43,025.0	37,607.0	87.4	55.3
14.	Manipur	2,165.0	2,014.8	93.1	84.2
15.	Meghalaya	1,815.0	1,869.2	103.0	87.2
16.	Mizoram	1,460.0	1,374.1	94.1	83.2
17.	Nagaland	1,260.0	1,110.0	88.1	88.1
18.	Orissa	20,250.0	17,801.0	87.9	54.6
19.	Punjab	11,705.0	9,981.5	85.3	54.0
20.	Rajasthan	22,875.0	19,169.0	83.8	60.0
21.	Sikkim	1,610.0	1,615.9	100.4	87.4
22.	Tamil Nadu	44,485.0	42,170.0	94.8	73.3
23.	Tripura	1,965.0	1,737.3	88.4	43.0
24.	Uttar Pradesh	78,045.0	68,091.0	87.2	68.6
25.	West Bengal	31,685.0	27,295.0	86.1	63.0
26.	A & N Islands	405.0	327.1	80.8	80.8
27.	Chandigarh	555.0	385.3	69.4	57.7
28.	D & N Haveli	605.0	403.5	66.7	40.1
29.	Daman & Diu	505.0	429.6	85.1	85.1
30.	Delhi	7,395.0	7,071.7	95.6	57.3
31.	Lakshadweep	655.0	567.7	86.7	33.2
32.	Pondicherry	1,060.0	867.6	81.8	24.0
Grand Total		5,01,680	4,47,636.2	89.2	64.2

15 Agriculture

THE agriculture sector, provides livelihood to about 64 per cent of the labour force, contributes nearly 26 per cent of Gross Domestic Product and accounts for about 18 per cent share of the total value of the country's exports. It supplies bulk of wage goods required by the non-agricultural sector and raw material for a large section of industry. Per capita net availability of foodgrains went up to a level of 467 grams per day in 1999-2000 as compared to that of 395 grams in the early fifties. In terms of gross fertilizer consumption, India ranks fourth in the world after USA, the erstwhile USSR and China. The country has the largest area in the world under pulse crops while in the field of cotton, India is the first to evolve a cotton hybrid.

HARVESTING SEASON

There are three main crop seasons, namely, *kharif*, *rabi* and summer. Major *kharif* crops are rice, *jowar*, *bajra*, maize, cotton, sugarcane, sesame and groundnut. Major *rabi* crops are wheat, *jowar*, barley, gram, linseed, rapeseed and mustard. Rice, maize and groundnut are grown in summer season also.

LAND UTILISATION

Land utilisation statistics are available for 92.7 per cent of total geographical area of 3,287.3 lakh hectares. According to land use statistics available from States, area under forests had increased from 404.8 lakh hectares in 1950-51 to 687.5 lakh hectares in 1996-97. Net sown area increased from 1,187.5 lakh to 1,428.2 lakh hectares during the same period. Broad cropping pattern indicates that though foodgrains have a preponderance in gross cropped area as compared to non-foodgrains, their relative share came down from 76.7 per cent during 1950-51 to 66 per cent during 1996-97.

SEEDS

Seed is a critical and basic input for attaining agricultural production and productivity in different agro-climatic regions. The role of quality seed programme, came into prominence about three decades ago. The country made a small beginning with a few thousand quintals of improved seed in the early sixties. Indian seed programme largely adheres to the limited generation system for seed multiplication. The system recognises three generations, namely, breeder, foundation and certified seeds and provides adequate safeguards for quality assurance in the seed multiplication chain to maintain the purity of variety as it flows from the breeders to the farmers. The level of certified/quality seed distributed to the farmers during 1995-96 to 1999-2000 and target for 2000-2001 is given below:

Year	Certified/quality seed distribution (in lakh quintals)
1995-96	69.90
1996-97	73.27
1997-98	75.60
1998-99	84.97 (Anticipated)
1999-2000	91.00 (Anticipated)
2000-2001	100.00 (Target)

STRUCTURE OF SEED INDUSTRY

Indian seed programme includes the participation of Central and State governments, ICAR, SAU system, public sector, co-operative sector and private sector institutions. Seed sector in India consists of two national level corporations, i.e., National Seeds Corporation (NSC) and State Farm Corporation of India (SFCI), 13 State Seed Corporations (SSCs) and about 100 major private sector seed companies. For quality control and certification, there are 21 State Seed Certification Agencies (SSCAs) and 101 State Seed Testing Laboratories (SSTLs). Though the private sector has started to play a significant role in the production and distribution of seeds of *Bajra*, *Sorghum*, *Maize*, *Sunflower*, *Cotton* and vegetables particularly after the introduction of the New Seed Policy of 1988, the organised seed sector particularly for food crops cereals continues to be dominated by the public sector.

LEGISLATIVE FRAMEWORK AND POLICY

The Seeds Act, 1966 provides for the legislative framework for regulation of quality of seeds sold in the country. The Act also provides for a system of certification of seeds on a voluntary basis. The Act further provides for notification of varieties which is a pre-requisite for certification. The Central Seed Committee and its various sub-committees and the Central Seed Certification Board are apex agencies set up under the Act to deal with all matters relating to administration of the Act and quality control of seeds.

In order to ensure equitable distribution of quality seeds to farmers, seed has been declared as an essential commodity under the Essential Commodities Act, 1955. Government of India has promulgated the Seeds (Control) Order, 1983 which seeks to control and regulate seed production and distribution.

In order to encourage export of seeds in the interest of farmers, the procedure for export of seeds has been simplified. Privately developed varieties/hybrids will be allowed to be exported freely except where there is any emergency caused by the natural calamities and seed is required for meeting demand in the country. Export against orders for which production of seed is organised, is allowed without restriction. In other cases, quantitative

ceilings have been prescribed up to which export is permitted freely subject to the provisions of the EXIM Policy.

Under National Seeds Project III (NSP-III), assistance was provided to the SSCs, SSCAs as well as SAUs/ICAR for development of infrastructure to ensure adequate availability of quality seeds to the farmers and bring overall improvement in seed quality control programme. Up to 3 April 2000, 2,832 varieties of different crops have been notified for the purpose of the Seeds Act and 191 varieties were de-notified for the purpose of the Seeds Act, as they were very old and obsolete.

LEGISLATION ON PLANT VARIETIES AND FARMERS' RIGHTS PROTECTION

In order to fulfill the obligations under the TRIPS Agreement of the World Trade Organisation (WTO) which India has ratified, the DAC is formulating a legislation on a *sui generis* system for protection of Plant Varieties and Farmers' Rights. In order to provide necessary back up support for enactment of above Legislation, a new Central scheme for implementation of PVP Legislation has been formulated. After obtaining approval of the Cabinet to the Bill on 'Plant Varieties and Farmers' Rights Protection' the same was referred to the Joint Parliamentary Committee for examination.

FERTILIZER

Fertilizer is a key input for increasing agricultural production. The consumption of chemical fertilizers during 1999-2000 is estimated to be 18.4 million tonnes in terms of the nutrients, nitrogen (N), phosphate (P) and potash (K) as compared to 16.8 million tonnes in 1998-99.

Urea, which is the most widely used fertilizer is under-price, distribution and movement - control. Its selling price is fixed by the Government of India. The difference between the selling price and the cost of production (retention price) of each unit is paid as subsidy to the manufacturers under the Retention Price-cum-Subsidy (RPS) Scheme. Similarly imported urea is also subsidised. A freight component is also paid to the manufacturers for supplying the urea as per the allocation and supply plan indicated by the Government. The expenditure under the RPS scheme has been Rs 7,597.22 crore and Rs 8,744.07 crore during 1998-99 and 1999-2000 respectively.

To cushion the impact of decontrol of phosphatic and potassic (P&K) fertilizers, a concession of Rs 1,000 per tonne on DAP and MOP and proportionate concession on complexes was provided during 1992-93 under the special scheme of concession on sale of decontrolled P&K fertilizers. The prices of decontrolled fertilizers were still considered high and, therefore, the concession was enhanced in subsequent years. The rate of concession on P&K fertilizers during 1999-2000 is given as under:

RATE OF CONCESSION IN RUPEES PER TONNE

Product	1.4.1999 to 30.6.1999	1.7.1999 to 30.9.1999	1.10.1999 to 31.12.1999	1.1.2000 to 31.3.2000
DAP (Indigenous)	4,150	4,250	4,300	4,450
DAP (Imported)	3,100	3,250	3,250	-
MOP	3,250	3,300	3,300	-
SSP	900	900	900	900
Complexes	2,333-3,934	2,656-4,024	2,419-4,063	-

After decontrol, the Maximum Retail Prices (MRP) of these fertilizers were being indicated by the State Governments and DAC used to disburse concession receipt of certification from the States. From 1 April 1997 onwards, the MRP which is being indicated by DAC is uniformly applicable all over the country and is as follows:

Product	1.4.1997 to 28.2.2000 (Rs per MT)	From 29.2.2000 (Rs per MT)
DAP	8,300	8,900
MOP	3,700	4,255
Complexes	6,200-8,000	6,620-8,250

The price of SSP Continues to be fixed by the State Governments/UTs concerned.

Decontrol and consequent price rise had resulted in reduced consumption of phosphatic and potassic fertilizers and deterioration in the NPK use ratio to 9.5:3.2:1 in 1992-93. With the enhancement of the rates of concession and removal of some other constraints, consumption of phosphatic and potassic fertilizers has increased significantly since 1997-98. As a result, the NPK ratio which had deteriorated to 10:2.9:1 in 1996-97 improved to 7.9:2.8:1 during 1997-98. The NPK ratio for 1999-2000 is estimated to be 6.9:2.7:1. Funds amounting to Rs 2,596 crore, Rs 3,789.94 crore and Rs 4,500 crore were utilised during 1997-98, 1998-99 and 1999-2000, respectively on the scheme of concession. A budget provision of Rs 4,093 crore has been earmarked for 2000-2001.

The Government of India is implementing a Centrally-sponsored scheme on 'Balanced and Integrated Use of Fertilizers' to popularise soil test based application of fertilizers in balanced quantities and production of useful organic manure from city waste/garbage. Under this scheme, during Eighth Plan, assistance was provided for strengthening of 189 input testing laboratories viz., fertilizers (21), seed (9), soil (147) and bio-fertilizers (12) and setting up of 21 mechanical compost units in various States. In addition, assistance was given for organising 25,480 demonstrations on micronutrients, 1,124 trainings on bio-composting under the scheme. About 400 front-line demonstrations

were organised on soil test based crop response to fertilizer application through State soil testing laboratories in collaboration with ICAR. Funds amounting to Rs 18.78 crore were released during Eighth Plan to various State Governments for implementing the above components of the scheme. The scheme is being continued during Ninth Plan with an outlay of Rs 46.11 crore. Between 1997-98 and 1999-2000, funds have been released for setting up and strengthening of 143 soil testing laboratories and setting up of four mechanised compost plants besides organisation of training programmes and seminars.

The Government of India is implementing a Central Sector Scheme "National Project on Development and Use of Bio-fertilisers". Under the scheme, a National Bio-fertilizer Development Centre has been established at Ghaziabad with six regional centres at Hissar, Jabalpur, Bhubaneswar, Bangalore, Nagpur and Imphal. At present these centres have a capacity of producing and distributing 375 tonnes of Bio-fertilizers per year. During 1999-2000 these centres produced 262.4 tonnes of biofertilizers. Besides, 14 orientation courses, 42 extension workers' training, seven refresher courses, and 68 field demonstration trials/farmers fairs were organised. This scheme also envisages providing financial support to State Governments/Government undertakings as well as private entrepreneurs, of one time non-recurring grant-in-aid of Rs 20 lakh for setting up/strengthening of bio-fertilizer production unit with capacity of 150 tonnes per annum and Rs Rs 1.5 lakh for strengthening of Blue Green Algae (BGA) sub-centres. During the year 1999-2000, 19 bio-fertilizer production units of State Government/institutional agencies/private entrepreneurs have been set up through release of Rs 159 lakh grant-in-aid as first instalment. The Government has so far assisted establishment of 72 bio-fertilizers production units with an annual production capacity of 10,075 tonnes. During the Ninth Plan, the scheme is being implemented with a total outlay of Rs 19.30 crore.

The Government has issued Fertilizer (Control) Order, 1985 under the Essential Commodities Act, 1955. This Order contains specifications of fertilizers being sold in the country, methods of sampling and analysis as well as provision for appointment of enforcement agencies for regulating the trade and distribution of fertilizers. There are 64 fertilizer quality control laboratories in various states with a total analysing capacity of 1,11,400 samples per annum. The Government has been implementing a Central Sector Scheme on Strengthening of Central Fertilizer Quality Control and Training Institute (CFQC&TI) since the Fourth Five Year Plan. During the Ninth Plan, the scheme is being implemented with an outlay of Rs 6.80 crore. The institute organises training programmes for State Enforcement Officers, Fertilizer Analysts and for trainees from developing countries. During the Eighth Five Year Plan, 34,662 fertilizer samples were analysed and 61 training programmes for Fertilizer Inspectors and Analysts, 178 orientation courses and 105 dealers training programmes were conducted by CFQC&TI, Faridabad and its regional laboratories. Training courses for fertilizer dealers are also being organised in collaboration with the State Governments and fertilizer industry.

SOIL AND WATER CONSERVATION

Soil and Water Conservation measures are one of the essential inputs for increasing agricultural output in the country. These programmes were first launched during the First Plan. From the very beginning emphasis has been on development of technology for problem identification, enactment of appropriate legislation and constitution of policy coordination bodies. While conceptual framework of soil and water conservation activities has not changed, concept of programmes has undergone considerable revision during successive Five Year Plans.

At present the River Valley Project scheme is being implemented in 34 catchments having total treatable area of 18.02 million hectares out of total catchment area of 71.95 million hectares. Since inception up to the end of 1999-2000 an area of 4.35 million hectares has been treated with various soil and water conservation measures. Similarly, Flood Prone River Scheme is being implemented in 12 catchments having total catchment area of 24.08 million hectares and treatable area of 7.56 million hectares out of which 1.20 million hectares has been treated till the end of 1999-2000.

A Centrally-sponsored scheme of reclamation of alkali soils was taken up in Punjab, Haryana and Uttar Pradesh during the Seventh Five Year Plan. The scheme was further extended to the States of Gujarat, Madhya Pradesh and Rajasthan during the Eighth Five Year Plan. The scheme aims at improving physical conditions and productivity status of alkali soils for restoring optimum crop production. The major components of the scheme include assured irrigation water on farm development works like land levelling, bunding and ploughing, community drainage system, application of soil amendment, organic manures, etc. An area of 0.65 million hectares out of 3.58 million hectares of alkali land has been reclaimed till the end of 1999-2000 in the country.

Another project for alkali land reclamation and development has been taken up in U.P. and Bihar with the help of EEC at an estimated cost of Rs 85.80 crore out of which Government of India's share is Rs 6.88 crore. The project came into existence during 1993-94 and is likely to be completed by 2001. The project envisages reclaiming 15,000 hectares of alkali soils during its life span of seven years. An area of 30,825 hectares has been reclaimed till the end of 1999-2000.

The scheme of Watershed Development Project in Shifting Cultivation Areas (WDPSCA) was launched in seven north-eastern States with an outlay of Rs 45 crore during the Eighth Plan from 1994-95 with 100 per cent Central assistance to the State plan. The scheme aims at overall development of *jhum* areas on watershed basis. The scheme picked up momentum from 1996-97 onwards. During the Eighth Plan an amount of Rs 40.826 crore was released to the states of north-east region for treating 0.81 lakh hectares area through treatment packages. Up to March 1997 an area of 0.71 lakh hectares has been treated with an expenditure of Rs 31.737 crore. During the Ninth Plan, it has

been decided to implement the programme under revised guidelines keeping in view the specific terrain, hydrologic and socio-economic conditions of the areas which are under formulation. During first three years of Ninth Plan an area of 0.09 m.ha. has been treated with an expenditure of Rs 45 crore.

AGRICULTURAL IMPLEMENTS AND MACHINERY

FARM MECHANISATION

The Government programmes have been oriented to promote farm mechanisation and make the improved and modern agricultural machines available to the farmers throughout the country with a view to increasing the agricultural production, minimising the drudgery associated with farm operations and removing socio-economic disparity among the farmers. Farmers have been provided assistance for owning agricultural machinery including tractors. The infrastructure for human resource development on farm machinery has been expanded with a view to imparting training in the proper selection, operation, repair/maintenance and management of farm machinery. Besides this, farm machines are tested for evaluating their performance characteristics and upgrading their quality.

However, despite a progressive increase in the use of agricultural machines, its sustainable benefits towards agricultural development have not been uniform in as much as the improvement has mostly been in the northern states and in a few pockets/areas in other states where irrigation facilities have been developed.

Although animal and human power continue to be the main power sources in agriculture, yet the power-driven machines, namely, tractors, power-tillers and combine harvesters, continue to be in the frontline of farm mechanisation. Fuel-efficient tractors and better-quality farm machines are now available in the country. The Government efforts have found expression in a substantial increase in the use of agricultural machines by the farmers. The sale of tractors and power tillers touched an all-time high during 1999-2000, viz., about 2,73,273 tractors and 16,891 power tillers. The same holds good for the other agricultural equipments as well.

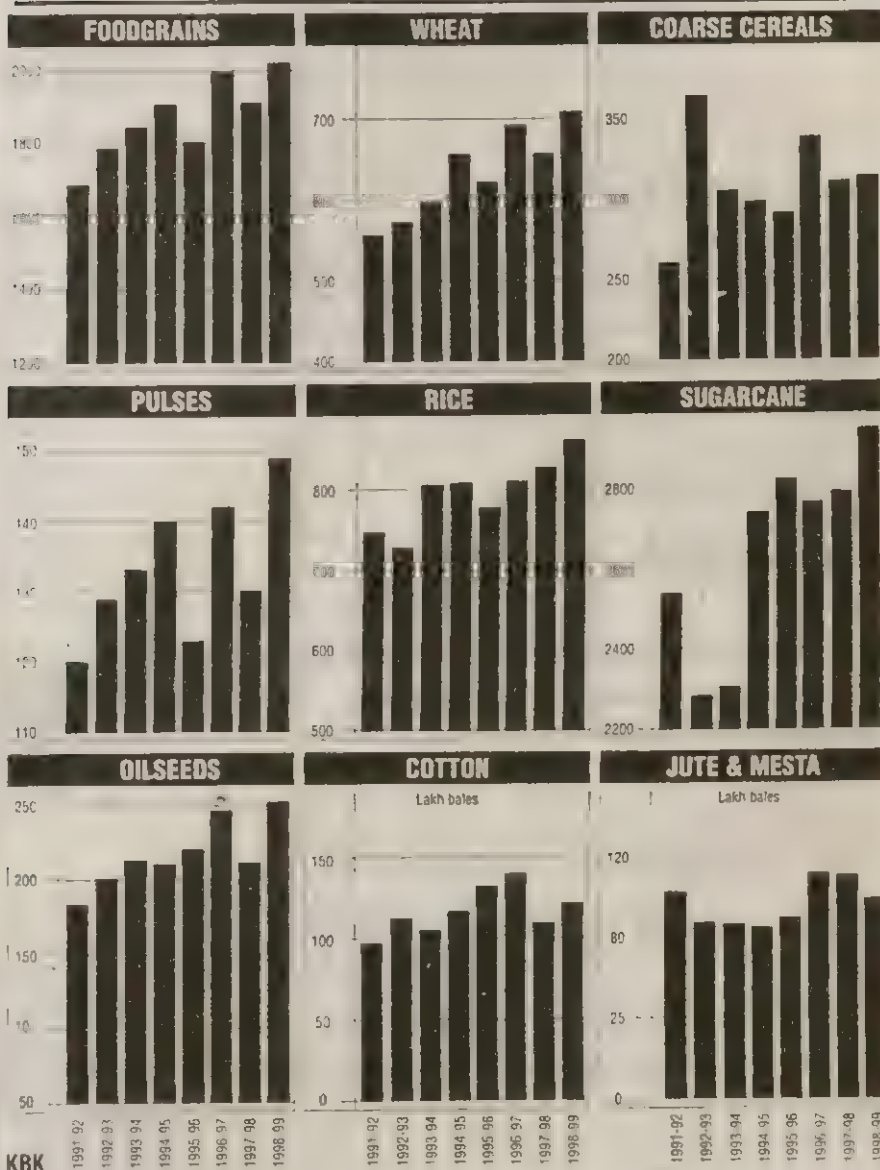
During the Ninth Plan, thrust has been given to improved animal/power-driven implements and small tractors. Water management has also been given specific attention and the water saving devices, viz. sprinkler and drip irrigation system would be promoted through oilseeds, pulses, sugarcane and horticultural development programmes. Industrial designs of prototypes and their jigs and fixtures will be developed for arranging manufacture of new and improved agricultural implements. These schemes would give a fillip to the promotion of agricultural mechanisation in the country.

FARM MACHINERY TRAINING AND TESTING INSTITUTES

Farm Machinery Training and Testing Institutes set up at Budni (Madhya

AGRICULTURAL PRODUCTION

(In Lakh Tonnes)



Pradesh), Hissar (Haryana), Garladinne (Andhra Pradesh) and Biswanath Chariali (Assam) have the capacity of training 3,500 personnel on various aspects of farm mechanisation and testing of about 70 machines annually. Since inception about 60,266 personnel have been trained and about 1,495 machines tested by these institutes. During 1999-2000, these institutes have trained 3,638 personnel and tested 84 machines.

PROMOTION OF AGRICULTURAL MECHANISATION AMONG SMALL FARMERS

Under this Centrally-sponsored scheme, subsidy at the rate of 30 per cent limited to Rs 30,000 is given to the farmers, their groups, registered cooperative societies, agricultural credit societies, multi purpose agricultural farming societies for the purchase of tractors up to 30 power-take-off horse power (PTO HP) along with matching implements. The scheme had been introduced during 1992-93 with the objective of promoting/popularising farm mechanisation among farmers for increasing the productivity and alleviating the drudgery associated with various farm operations. During 1992-2000 Rs 1,577.10 lakh, were released to the States/UTs under the scheme for subsidising 5,257 tractors. A provision of Rs 1,560 lakh has been made for subsidising 5,200 tractors during 2000-2001. The Department has decided to launch a scheme to conduct studies and formulate long-term mechanisation strategies for each agro-economic zone during the Ninth Plan for which provision of Rs 130 lakh has been made during 2000-2001.

STATE AGRO INDUSTRIES CORPORATIONS

The State Agro Industries Corporations (SAICs) have been set up to act as catalyst for providing to the farmers access to the various industrial inputs for agriculture. SAICs have since expanded their basic function by commencing the manufacture and marketing of agricultural inputs, implements and machines, aftersales service and promotion and development of agro-based industries. Seventeen SAICs were set up with equity participation of Government of India. In addition, Government of Manipur and Pondicherry set up their own SAICs without equity participation of Government of India. The turnover of 15 SAICs during 1997-98 was Rs 2,098.84 crore (provisional).

PLANT PROTECTION

Plant Protection strategy has been reoriented and Integrated Pest Management (IPM) has been adopted as cardinal principle and main plank of plant protection since Seventh Plan. IPM is an eco-friendly approach aimed at minimal use of chemical pesticides by employing available alternative methods for pest control like cultural, mechanical, biological and use of bio-pesticides. Emphasis on human resource development is one of the main features of this programme. To achieve this, the Government of India have organised IPM demonstrations in rice, cotton, vegetables, oilseeds, and pulses through establishment of Farmers Field Schools (FFSs) for training of 26,765 agricultural extension officers and 1,87,283 farmers in the various techniques

of IPM. IPM package of practices for five *kharif* and 14 *rabi* crops has been circulated to the States for adoption.

Plant quarantine activities are intended to prevent introduction of exotic pests and diseases into the country as well as for the control/containment of exotic pests and diseases which have already been introduced, by adoption of suitable domestic plant quarantine measures. This is achieved by implementation of the provisions of Destructive Insects and Pests Act, 1914 (DIP Act, 1914) and the Plants, Fruits and Seeds (Regulation of Import into India) Order, 1989, issued thereunder. Besides, the work pertaining to Post Entry Quarantine inspection/surveillance in respect of the identified plants/planting material in pursuance to the New Policy on Seed Development, has been assigned to the Designated Inspection Authorities (DIAs) who are the scientists of the SAUs.

The export certification and issuance of Phyto-sanitary Certificate (PSC) is undertaken by the Plant Quarantine Stations. The National Plant Protection Training Institute, Hyderabad conducted 27 plant protection courses to impart trainings to 482 personnel during 1999-2000. Continued liaison is maintained with locust-prone countries and the FAO to keep watch for the invasion of locusts. The Locust Warning Organisation with its five circle offices and 23 outposts monitors two lakh sq.km. Scheduled Desert Area in Rajasthan, Gujarat and Haryana for locust surveillance and control.

NATIONAL WATERSHED DEVELOPMENT PROJECT FOR RAINFED AREAS

National Watershed Development Project for Rainfed Areas (NWDPA) was launched in 1991 in 25 States and two Union Territories. The project continued during Ninth Five Year Plan with the purpose of increasing agricultural productivity and production in rainfed areas through sustainable use of natural resources.

The programme measures under NWDPA include: (i) Treatment of arable and non-arable lands; (ii) Treatment of drainage lines; and (iii) Production systems in arable and non-arable lands with emphasis on multiple/mix/strip cropping preferably of legume components, organic farming, dryland horticulture, agro-forestry, silvi pasture, livestock management and household production systems. The project *inter alia* provides for suitable institutional framework for promoting people's participation, management of common property resources, etc., with the help of such watershed/village based institutions.

NWDPA has been considerably restructured with greater decentralisation and community participation, higher degree of flexibility in choice of technology and suitable institutional arrangements for ensuring long-term sustainability. During the Eighth Plan 4.3 million ha. was developed through implementation of 2,554 watershed projects with an expenditure of Rs 971.52 crore. During the Ninth Plan, it is targeted to treat 2.25 million ha. of rainfed areas at a cost of Rs 1,020 crore. During 1999-2000, an allocation of Rs 186.60 crore has been made for the development of 3.50 lakh ha.

WATERSHED DEVELOPMENT FUND

As a follow-up action to the Union Finance Minister's budget (1999-2000) speech, a Watershed Development Fund (WDF) has since been established at NABARD with the objective of integrated watershed development in 100 priority districts through participatory approach. The total corpus of the WDF is Rs 200 crore. The fund will be utilised to create the necessary framework conditions to replicate and consolidate the isolated successful initiatives under different programmes in the Government, semi-government and NGO sectors. The WDF is to be operationalised in close coordination with the Central and State Ministries and Departments as a continuum of their efforts but with a distinct identity, and contribution by NABARD and the Government of India financially and managerially. Utilising WDF mode of assistance by NABARD, it is contemplated to have a spread of the programme in 14 States. In the first Phase the WDF will be accessible to six States, namely, Andhra Pradesh, Maharashtra, Gujarat, Madhya Pradesh, Orissa and Uttar Pradesh.

WORLD BANK-AIDED WATERSHED DEVELOPMENT PROJECTS

Integrated Watershed Development Projects (IWDP) (Hills-Phase-I & Phase-II) : On the completion of the IWDP-Hills Phase-I on 31 March 1999 utilising IDA credit of US \$ 66.54 million (Rs 285.62 crore) accomplishing treatment of 1.96 lakh ha, the IWDP-Hills-Phase-II has been launched at an estimated cost of US \$ 193 million equivalent to Rs 954.60 crore (IDA credit will be US \$ 135 million). The objective is to restore the productive potential of the Shivalik Hills in the states of Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab and Uttar Pradesh using cost effective watershed treatment technologies and community participation approach.

Assam Rural Infrastructure and Agriculture Support Project : This project being implemented since 1995 at a cost of Rs 567.65 crore will end in 2003. The objective is to alleviate poverty and accelerate agriculture growth through improved use of resources. An outlay of Rs 150 crore has been earmarked for 1999-2000.

Uttar Pradesh Diversified Agriculture Support Project : This project was launched in 1998 with an estimated cost of Rs 699 crore (US \$ 160.50 million) for a period of seven years. The objectives are to increase agricultural productivity, promote private sector development and improve infrastructure. So far, Rs 920 crore has been utilised. The outlay for 1999-2000 is Rs 124.55 crore and the expenditure up to September 1999 has been Rs 7.58 crore.

EUROPEAN ECONOMIC COMMUNITY ASSISTED PROJECTS

Doon Valley Project : The objective of the project is to arrest and reverse ongoing degradation of Doon Valley Environment. The project was launched in April 1993 and will be completed by December 2001. The project has 37,400 ha as treatable area with an outlay of Rs 82.95 crore. Rs 38.72 crore had been spent up to March 1998 to treat an area of 8,506 ha. The expenditure during 1999-2000 (up to October 1999) had been Rs 6.44 crore.

GERMAN KFW ASSISTED PROJECT

German Kreditanstalt für Wiederaufbau (KFW) assisted Integrated Watershed Management Project with a project cost of Rs 55.08 crore (DM 24 million) is being implemented in Karnataka to treat an area of 53,633 ha. The programme being implemented since 1996 with the participation of six NGOs will run up to the year 2002. KFW assisted Watershed Development in Maharashtra is being implemented through NABARD since 1992. The cost of the project is Rs 19.73 crore with KFW assistance of DM 12 million. The project is being implemented with participation of NGOs.

DANIDA AIDED PROJECTS

Comprehensive Watershed Development Project—Tirunelveli, Tamil Nadu:

This project was launched in 1990-91 with assistance from DANIDA and continued as phase-II since 1994. The objectives of the project are to arrest further erosion of degraded land, to develop sustainable and cost effective utilisation of several types of land, to create long-term employment opportunities for farmers and landless agricultural labourers. The main components of the project are survey, extension and training, planting of shelter belts, establishment of demonstration plots, etc. So far, an expenditure of Rs 19.25 crore has been incurred in the second phase.

Comprehensive Watershed Development Project—Ramanathapuram, Tamil Nadu :

This project was launched in 1994-95. The objectives of the project are to enable land users in priority watersheds to practise dry land agriculture, range management, horticulture and forestry including conservation and use of natural resources. The project components are formulation of village project committee leaders, training in nursery raising and borewell maintenance, ploughing, production and distribution of seedlings, establishment of shelter belts, soil and moisture plots, etc. The total project cost is Rs 13 crore. So far, an expenditure of Rs 8.10 crore has been incurred.

Comprehensive Watershed Development Project—Karnataka: This project was launched in 1999-91 with assistance from DANIDA involving a total cost of Rs 13.35 crore. This project is being implemented in the districts of Belgaum and Dharwad in Karnataka. The major components are soil and water conservation, afforestation, training, survey, studies and research. DANIDA has agreed for a second phase of this project which started from 1997 at a cost of Rs 21 crore to run up to 2004. So far an expenditure of Rs 1.56 crore has been incurred.

Comprehensive Watershed Development Project—Koraput, Orissa : This project was launched in 1993-94. The objectives of the Project are to establish sustainable and locally acceptable land use systems to improve the living conditions of rural poor without overexploiting the natural resources. The main components of the project are soil and water conservation measures, mix tree plantations, training and demonstrations, etc. The total cost of the project is Rs 13.25 crore. The expenditure, so far, is Rs 7.08 crore.

Comprehensive Watershed Development Project — Madhya Pradesh : The five-year project is being implemented from March 1997 at a cost of Rs 13.15 crore. It covers about 4,000 ha area in Jhabua, Dhar and Ratlam districts of Madhya Pradesh. So far an expenditure of Rs 1.15 crore has been incurred under this project.

CROP PRODUCTION PROGRAMME

For sustainable agriculture and increasing overall production of cereals, States and Union Territories are assisted through Centrally-sponsored schemes on (i) Integrated Cereals Development Programme in Wheat-based Cropping Systems Areas (ICDP-Wheat); (ii) Integrated Cereals Development Programme in Rice-based Cropping Systems Area (ICDP-Rice); and (iii) Integrated Cereals Development Programmes for Coarse Cereals based on Cropping Systems Areas (ICDP — Coarse Cereals). In addition, in order to popularise new varieties, Seed Mini-kits Programme on Rice, Wheat and Coarse Cereals is also being implemented. Similarly, for the development of commercial crops, the programmes implemented are: Centrally-sponsored Intensive Cotton Development Programme (ICDP) — merged with the technology mission, on cotton, Sustainable Development of Sugarcane-based Cropping Systems and Special Jute Development Programme.

For the development of cereals, cropping system approach has been adopted since 1994-95. The emphasis in the crop-oriented programmes is on field demonstrations and farmers' training for transfer of technologies, popularisation of Integrated Pest Management (IPM) and Integrated Nutrient Management, propagation of high-yielding varieties, supply of farm implements to build resource base for the farmers. Farmers are assisted under various components of the schemes implemented in the concerned State/UT. These programmes and also the sustained efforts made by our farmers have helped to increase production of cereals, cotton and sugarcane during the Ninth Plan, as compared to the Eighth Plan.

CROP PRODUCTION

Area, production and yield of principal crops of selected years is shown in table 15.1.

TECHNOLOGY MISSION ON OILSEEDS, PULSES AND MAIZE

The Technology Mission on Oilseeds has achieved a major breakthrough in the production of oilseeds. During 1998-99, another record production of 25.2 million tonnes of oilseeds was achieved over 21.30 million tonnes in 1997-98. However, there is a set back in the production of Oilseeds and Pulses during 1999-2000 due to unfavourable weather conditions prevailing in the country. The oilseed sector has grown to be a major foreign-exchange earner for the country. During 1998-99 export worth Rs 3,028 crore was made of oil seed, castor oil, groundnut, oilmeals, sesame and Niger seed. For increasing the production of oilseeds, the implementation of Centrally-sponsored

Oilseeds Production Programme (OPP) is being continued during the Ninth Five Year Plan also with enhanced assistance.

Looking at the success achieved in the oilseeds production pulses were also brought under the ambit of the Technology Mission in 1990. There has been increase in production of pulses after the inclusion in the Mission. During 1998-99, the production of pulses was estimated to be about 14.8 million tonnes. The implementation of Centrally-sponsored National Pulses Development Project (NPDP) is to be continued during the Ninth Five Year Plan also with enhanced assistance.

Maize has also been included in the Technology Mission in 1995 in view of the versatility of the crop and its importance as a foodgrain, animal feed and an industrial raw material. For increasing the production of maize, Accelerated Maize Development Programme (AMDP) has been formulated during the Eighth Five Year Plan which is proposed to be implemented during the Ninth Plan.

To augment the availability of edible oil, Oil Palm Development Programme was introduced in the Eighth Plan for which an area of eight lakh hectares has been found suitable in the 11 selected states, out of which an area of 44,000 hectares has been brought under plantation up to 1998-99.

HORTICULTURE

Horticulture includes a wide range of crops, namely, fruits, vegetables, tuber crops, flowers, medicinal and aromatic plants, mushrooms, plantation crops, spices, etc., being grown in varied agro-climatic conditions of temperate, sub-tropical and arid zones.

Horticulture development in the country continues to make steady progress in the production and export of agricultural products. India has emerged as second largest producer of fruits and second largest producer of vegetables after China. India has first position in production of mango, coconut, cashewnut, spices, etc. India is the largest exporter of cashewnut and provides about 40 per cent of the world's total production. India's share in the world trade in spices is around 18 per cent. India is the largest producer of ginger, turmeric and accounts for 65 per cent and 76 per cent respectively of the total world's production.

The area under coconut in 1998-99 was 19.08 lakh hectares and the production 14,925 million nuts. With this, India has emerged as the largest producer of coconut in the world. The crop sustains nearly 10 million families, contributes 5-6 per cent of the total vegetable oil pool in the country and earns a foreign exchange of Rs 200 crore annually through the exports of coir and coir products. About 88 per cent of the coconut production is accounted for by the states of Kerala, Tamil Nadu, Andhra Pradesh and Karnataka. Coconut cultivation is catching up in non-traditional areas like the north-eastern States, Madhya Pradesh, Bihar, etc.

The area under cashew was 73 lakh hectares and production 4.6 lakh tonnes in 1998-99. Kerala, Tamil Nadu and Andhra Pradesh are the major cashewnut producing states. India is the world's leading producer and exporter of cashew accounting for nearly 50 per cent of the world's demand.

The role of horticulture has been fully recognised for having high potential for diversification of horticulture, better land use with improved productivity and higher income per unit area for the farmers. Besides, it provides nutritional food to millions of people and better employment opportunities. For the year 1999-2000, an allocation of Rs 260 crore has been provided for various Central sector/Centrally-sponsored horticulture development programmes.

ANIMAL HUSBANDRY

Animal Husbandry and Dairy development plays a prominent role in the rural economy in supplementing the income of rural households, particularly, the landless and small and marginal farmers. It also provides subsidiary occupation in semi-urban areas and more so for people living in hilly, tribal and drought-prone areas where crop output may not sustain the family. Animal husbandry output constitutes about 24 per cent of the country's agricultural output. According to estimates of national accounts, the gross value of output for livestock sector during, 1998-99 was about Rs 1,23,077 crore as against the total value of output of Rs 5,07,297 crore for the agriculture sector.

India is endowed with the largest livestock population in the world. It accounts for 57 per cent of the world's buffalo population and 15 per cent of the cattle population. According to the Livestock Census (1992) the country has about 20.5 crore cattle and 8.4 crore buffaloes as compared to 15.5 crore cattle and 4.3 crore buffaloes in 1951. Thus the population of buffaloes has almost doubled since independence. The population of poultry birds has also increased about fourfold since 1951.

CATTLE AND BUFFALO DEVELOPMENT

India possesses 27 acknowledged indigenous breeds of cattle and seven breeds of buffaloes. India's cattle are resistant to diseases especially to tropical animal diseases like tick-borne and protozoan infections. Various Central and Centrally-sponsored schemes are being implemented for genetic improvement of cattle and buffalo with a view to increasing the per capita availability of consumption of milk through increased milk production. Efforts are also made to protect and preserve the indigenous cattle and buffalo in their native tract, which are facing threat of extinction. The elite animals are selected and registered on the basis of their performance for production of superior pedigree bulls, bull-mothers, frozen semen and frozen embryos for future breeding improvements. To achieve this the advanced embryo transfer technology is also applied in breeding operations.

During 1999-2000, 6,103 artificial insemination centres, 17 sperm stations, 40 frozen semen banks, 66 LN2 delivery and distribution systems and

TABLE 15.1 : AREA, PRODUCTION AND YIELD OF PRINCIPAL CROPS—ALL INDIA

A-Area in lakh hectares														
P-Production in lakh tonnes														
Y-Yield in kg per hectare														
Crops		1950-51	1960-61	1970-71	1980-81	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97 Revised	1997-98 Final	1998-99
1		2	3	4	5	6	7	8	9	10	11	12	13	14
Rice	A	308.10	341.28	375.92	401.52	426.87	426.49	417.75	425.39	428.14	428.37	434.33	434.46	445.98
	P	205.76	345.74	422.25	536.31	742.91	746.78	728.68	802.98	818.14	769.75	817.37	825.35	889.95
	Y	668	1,013	1,123	1,336	1,740	1,751	1,744	1,888	1,911	1,797	1,882	1,900	1,928
Wheat	A	97.46	129.27	182.41	222.79	241.67	232.62	245.89	251.47	257.00	250.11	258.87	266.96	273.98
	P	64.62	109.97	238.32	363.13	551.34	556.20	572.10	598.40	657.67	620.97	693.50	663.45	707.79
	Y	663	851	1,307	1,630	2,281	2,394	2,327	2,380	2,559	2,483	2,679	2,485	2,583
Jowar	A	155.71	184.12	173.74	158.09	143.58	123.60	130.41	127.10	115.14	113.26	114.31	108.01	99.80
	P	54.95	98.14	81.05	104.31	116.81	80.99	128.06	114.15	89.65	93.27	109.34	75.28	87.13
	Y	353	533	466	660	814	655	902	898	779	823	956	697	873
Bajra	A	90.23	114.69	129.13	116.17	104.76	100.28	106.17	95.46	102.23	93.19	99.80	96.68	92.77
	P	25.95	32.83	80.29	53.43	68.94	46.65	88.80	49.79	71.51	53.81	78.65	76.44	70.32
	Y	288	286	622	458	658	465	836	521	700	577	788	791	758
Maize	A	31.59	44.07	58.53	60.05	59.04	58.59	59.63	59.95	61.36	59.79	62.60	63.21	60.83
	P	17.29	40.80	74.86	69.56	89.62	80.64	99.92	96.01	88.84	95.34	107.69	108.16	106.78
	Y	547	926	1,279	1,159	1,518	1,376	1,676	1,606	1,448	1,595	1,720	1,711	1,755
Total	A	782.30	920.18	1,017.82	1,042.10	1,031.73	993.29	1,007.88	1,005.04	1,008.32	987.32	1,011.34	1,009.76	1,015.37
Cereals	P	424.14	693.14	966.04	1,189.62	1,621.25	1,563.58	1,666.68	1,709.56	1,774.98	1,681.05	1,851.92	1,792.79	1,880.34
	Y	542	753	949	1,142	1,571	1,574	1,654	1,701	1,760	1,703	1,831	1,775	1,854

Table 15.1 (Contd.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Gram														
A		75.70	92.76	78.39	65.84	75.21	55.80	64.54	63.39	75.43	71.16	68.47	75.63	84.14
P		36.51	62.50	51.99	43.28	53.56	41.21	44.17	49.81	64.36	49.79	55.66	61.32	66.84
Y		482	674	663	657	712	739	684	783	853	700	813	811	794
Total		190.91	245.63	225.34	224.57	246.62	225.42	223.60	222.50	230.28	222.83	224.47	228.71	238.19
Pulses														
A		84.11	127.04	118.18	106.27	142.65	120.15	128.15	135.05	140.38	123.10	142.44	129.79	148.09
P														
Y		441	539	524	473	578	533	573	598	610	552	635	567	622
Total		973.21	1,155.81	1,243.16	1,266.67	1,278.35	1,281.71	1,231.48	1,227.54	1,238.60	1,210.15	1,235.81	1,238.47	1,253.55
Food-														
P		508.25	820.18	1,084.22	1,295.89	1,763.90	1,683.75	1,794.83	1,842.60	1,914.95	1,804.15	1,994.36	1,972.59	2,030.43
grains														
Y		522	710	872	1,023	1,380	1,382	1,457	1,501	1,548	1,491	1,614	1,552	1,620
Groundnut														
A		44.94	64.63	73.26	68.01	83.09	86.68	81.66	83.22	78.49	75.24	75.96	7,088	7,572
P		34.81	48.12	61.11	50.05	75.15	70.95	85.65	78.29	80.62	75.79	86.43	7,372	9,164
Y		775	745	834	736	904	818	1,049	941	1,027	1,007	1,138	1,040	1,210
Rapeseed														
A		20.71	28.83	33.23	41.13	57.82	65.53	61.93	62.89	60.60	65.46	65.45	7,041	6,598
& Mustard														
P		7.62	13.47	19.76	23.04	52.29	58.63	48.03	53.28	57.58	60	66.58	4,703	5,774
Y		368	467	594	560	904	895	776	847	950	916	1,017	668	875
Total Nine		107.27	137.70	166.44	176.03	241.48	258.86	252.36	268.97	253.04	259.64	263.38	26,124	26,711
Oilseeds														
P		51.58	69.82	96.30	93.72	186.09	186.00	201.07	214.96	213.37	221.06	243.85	21,325	25,210
Y		48	507	579	532	771	719	797	799	843	851	926	816	944
Sugarcane														
A		17.07	24.15	26.15	26.67	36.86	38.44	35.72	34.22	38.67	41.47	41.74	39.30	40.76
P		570.51	1,130.01	1,263.68	1,542.48	2,410.46	2,539.95	2,280.33	2,296.59	2,755.40	2,811	2,775.60	2,795.41	2,957.26
Y		33,422	45,549	48,322	57,844	65,395	66,069	63,843	67,120	71,254	67,777	66,496	71,134	72,560

Table 15.1 (Contd.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cotton (Linn) ¹	A	58.82	76.10	76.05	78.23	74.40	76.62	75.42	73.21	78.71	90.35	88.68	92.87
	P	30.44	56.04	47.63	70.10	98.42	97.14	114.03	107.41	118.98	128.61	108.51	121.78
	Y	88	125	106	152	725	216	257	249	257	242	208	223
Jute ²	A	5.71	6.29	7.49	9.41	7.78	8.75	7.27	6.95	7.39	7.37	9.06	8.41
	P	33.09	41.34	49.38	65.08	79.17	89.36	74.95	73.60	79.97	76.75	99.60	86.92
	Y	1.043	1.183	1.186	1.245	1.833	1.857	1.857	1.907	1.949	1.875	1.978	1.861
Mustard ³	A	Not	2.74	3.31	3.59	2.39	2.38	2.06	1.91	1.90	1.89	2.01	1.74
	P	Avail-	11.29	12.55	16.52	13.11	13.50	10.94	10.68	10.79	11.32	10.57	10.03
	Y	able	742	684	828	988	1,019	955	1,008	1,023	1,078	949	1,037

¹ Nine oilseeds, viz., Groundnut, Castorseed, Sesamum, Nigerseed, Soyabean, Sunflower, Rapeseed & Mustard, Linseed & Safflower

² Production in lakh bales of 170 kg each

³ Production in lakh bales of 180 kg each

10 training centres were established/strengthened in various states with Central assistance. A Central sector scheme for production of proven bulls by progeny testing under field conditions has been in operation in Andhra Pradesh, Kerala, Maharashtra, Orissa and Tamil Nadu. So far 45 number of bulls have been put under test-mating in the progeny testing centres.

Under the National Bull Production Programme 914 persons have been trained; 16 farms have been strengthened; five *gaushalas* were assisted; four bull stations for associated herd progeny testing programme were strengthened and two Embryo Transfer Training Centres were established. In 1999-2000 2,870 castrators were purchased by various States for castration of the scrub bulls under mass castration programme. The following schemes are implemented through the State Governments with 100 per cent Central assistance: (a) Extension of frozen semen technology and progeny testing programme; and (b) National bull production programme.

The seven Central cattle breeding farms at Suratgarh (Rajasthan), Chiplima and Semiliguda (Orissa), Dhamrod (Gujarat), Hessarghatta (Karnataka), Alamadi (Tamil Nadu) and Andeshnagar (Uttar Pradesh) are engaged in scientific breeding programmes of cattle and buffaloes and production of high pedigree bulls and frozen semen for cattle/buffalo breeding projects.

POULTRY DEVELOPMENT

The poultry production in the country has made significant progress over the years due to research and development thrust of the Government and organised private sector. Egg production is expected to increase to 31.5 billion during 1999-2000 as compared to 10 billion during 1980-81. Currently India ranks fifth in egg production in the world.

Central poultry breeding farms at Mumbai, Bhubaneswar, Hessarghatta and Chandigarh are engaged in scientific poultry breeding programme; and have developed high egg producing hybrid and fast growing broiler strains and are supplying parent stock chicks. Central Duck Breeding Farm at Hessarghatta is catering to requirements of high egg producing *Khaki* campbell breeding stock and fast-growing meat type ducklings to various States/Union Territories. Four random sample poultry performance testing centres at Bangalore, Mumbai, Bhubaneswar and Gurgaon conduct egg-laying and broiler tests and provide useful information to poultry farmers, hatcheries and breeding organisations about performance of various participating layer and broiler stocks in the country (both from public/private sector organisations). Central Poultry Training Institute at Hessarghatta is imparting short-term practical courses in different disciplines of poultry. Regional Feed Analytical Laboratories at Chandigarh, Mumbai and Bhubaneswar provide feed analysis facilities to farmers, public and private-sector organisations.

During 1999-2000, 0.22 lakh egg-type and 0.34 lakh meat-type parent chicks were sold at the Central Poultry Breeding farms and 0.73 lakh ducklings were produced at Central Duck Breeding Farm, Hessarghatta.

SHEEP DEVELOPMENT

It is estimated that about five million households in the country are engaged in the rearing of small ruminants and other allied activities. The major factors for low productivity are poor exploitation of genetic potential of indigenous animals, low absorption of available technology, inadequate resources of feed and fodder, insufficient health cover, inadequate marketing and credit support, etc. The total production of wool in the country is targeted to reach the level of 461 lakh kg in 1999-2000.

A Central Sheep Breeding Farm with exotic breed of sheep has been established at Hissar. It has a breeding programme with Rambouillet breed as well as cross breeding for production of acclimatised exotic/crossbred superior rams. It has distributed 618 exotic/crossbred rams to different states during 1999-2000. The Farm also trains officers and shepherds from different states in modern sheep management. Under the national ram/buck production programme and programme for rabbit development, Central assistance is being provided to State governments on 50:50 basis for strengthening sheep/goat/rabbit farms and state wool boards and to assist them in improving genetic potential of small ruminants.

MEAT PRODUCTION/PROCESSING AND EXPORT

A Centrally-sponsored scheme "Assistance to States for improvement/modernisation of abattoirs/establishment of carcass utilisation centres and primary hide flaying units" is being implemented in the Ninth Plan period. The objective of the scheme is to provide wholesome and hygienic meat, gainful utilisation of animal byproducts, prevention of environmental pollution and cruelty to animals.

During 1998-99, under 'Modernisation of Slaughter Houses' component of the scheme financial assistance of Rs 4.21 crore has been released to projects at Karnal, Vijayawada, Virar, Solarpur and Hyderabad. Other projects at Aurangabad, Meerut and Agra are also under consideration for providing assistance. Under the component 'Modernisation of Carcass Utilisation Centres', an amount of Rs two crore has been released to the projects at Ghaziabad during 1998-99 and the project at Hapur is under consideration.

Export of meat and meat preparations during 1997-98 was to the tune of Rs 808.35 crore as against export of Rs 2,190 crore of the livestock products.

PIGGERY DEVELOPMENT

There are more than 128 lakh pigs in the country of which approximately 14.5 per cent are graded and exotic variety. There are about 120 pig breeding farms in the country run by the State Governments/Union Territories. Exotic breeds like Large White Yorkshire, Hampshire and Landrace are maintained at these farms. These farms breed pigs and supply piglets, boars and sows to the farmers for cross-breeding and improvement of *desi* stock.

A Centrally-sponsored scheme, Assistance to States for Integrated

Piggery Development, is being implemented for strengthening the pig-breeding farms in the States. During the Eighth Plan, an amount of Rs 800 lakh was released for strengthening the pig breeding farms in the States of Mizoram, Manipur, Assam, Arunachal Pradesh, Andhra Pradesh, Karnataka, Kerala, Madhya Pradesh, Punjab, Uttar Pradesh, Orissa, Meghalaya, Tripura, Nagaland, Sikkim, Bihar, Manipur, Rajasthan and Tamil Nadu. Assistance to pig breeding farms under agricultural universities and *Krishi Vigyan Kendras* is also covered under this scheme.

FEED AND FODDER DEVELOPMENT

For improvement of vast livestock resources through proper scientific methods, availability of nutritious feed and fodder is essential. To make available scientific fodder production technology, seven regional stations have been established in different agro-climatic zones, i.e., at Hissar (Haryana), Kalyani (West Bengal), Gandhinagar (Gujarat), Alamadi (Tamil Nadu), Hyderabad (Andhra Pradesh), Suratgarh (Rajasthan) and Shehama (Jammu and Kashmir). These are also engaged in production and propagation of certified quality fodder seeds. During 1999-2000 these stations produced 172 MT of fodder seeds and conducted 1,380 field demonstrations of new fodder varieties.

A Central fodder seed production farm at Hessarghatta produced 203 MT seeds of different varieties of fodder grasses/legumes during 1999-2000 and conducted 125 field demonstrations of new fodder varieties. A Central minikit demonstration programme of fodder crops is under implementation for popularising high yielding fodder varieties on large scale. About 3.4 lakh minikits were ordered for distribution during the year 1999-2000.

There is a Centrally-sponsored scheme, viz., Assistance to States for Feed and Fodder Development, which aims at providing assistance to States for strengthening of State Fodder Seed Farms, establishment of fodder banks, enrichment of straw and cellulosic waste, establishment of silvipasture system, grassland development and sample survey for area production and requirement, etc., in fodder crops.

During 1999-2000 financial assistance of Rs 16 lakh has been provided for strengthening of two farms in Nagaland; Rs 129.56 lakh was released for establishment of four fodder banks (two in Gujarat, one each in Jammu and Kashmir); Rs 123.75 lakh provided for enrichment of straw and cellulosic waste in Mizoram, Sikkim, Gujarat and Orissa; Rs 13.89 lakh provided for establishment of silvipasture system in Mizoram and Sikkim; Rs 114.80 lakh provided for grassland development including grass reserves in Sikkim, Jammu and Kashmir, Gujarat and Orissa and Rs two lakh provided for sample survey for area, production and requirement of fodder to Mizoram.

DAIRY DEVELOPMENT

Cooperatives have played a significant role in stimulating dairy development

in the country. The Operation Flood Programme, which was the world's largest integrated dairy development programme, has made considerable progress in achieving its outlined objectives. The programme has since completed its III phase in April 1996. By March 2000 about 84,289 dairy cooperative societies were organised in 170 milksheds involving over 10.61 million farmer members.

As a result of various measures taken by the Government, milk production in the country has been 68.3 million tonnes at the end of Eighth Plan (1996-97) as compared to 17 million tonnes in 1950-51. India's milk output during 1998-99 was targeted to reach the level of 74.7 million tonnes.

• FISHERIES

Fisheries plays an important role in the economy of India. It helps in augmenting food supply, generating employment, raising nutritional level and earning foreign exchange. The Department of Animal Husbandry and Dairying has been undertaking directly and through State Governments/UT administrations various production, input supply and infrastructure development programmes and welfare-oriented schemes besides formulating/initiating appropriate policies to increase production and productivity in the fisheries sector.

Fish production since 1993-94 is shown in the table below:

(Lakh tonnes)

Year	Marine	Inland	Total
1993-94	26.49	19.95	46.44
1994-95	26.92	20.97	47.89
1995-96	27.07	22.42	49.49
1996-97	29.67	23.81	53.48
1997-98	29.50	24.38	53.88
1998-99	26.96	25.66	52.62
1999-2000 ¹	28.32	28.24	56.56

¹ Provisional

DEVELOPMENT OF INLAND FISHERIES

In recognition of the important role of inland fisheries in overall production of fish the Government has been implementing an important programme in inland sector, viz., Development of Freshwater Aquaculture through the Fish Farmers Development Agencies (FFDAs). These agencies provide a package of technical, financial and extension support to fish farmers. A network of 422 FFDAs is functioning now covering all potential districts in the country. During 1998-99, about 41,000 ha of water area was brought under fish culture and 29,600 fish farmers were trained in improved aquaculture practices through FEDAs.

DEVELOPMENT OF MARINE FISHERIES

The Government is providing subsidy to poor fishermen for motorising their traditional craft which increases the fishing areas and frequency of operation with consequent increase in catch and earnings of fishermen. About 33,000 traditional crafts were sanctioned for motorisation up to 1997-98. The Government has also been operating a scheme of re-imbursing the Central excise duty on HSD oil used by fishing vessels below 20m length to offset the operational cost, incurred by small mechanised fishing boat operators.

BRACKISHWATER AQUACULTURE

The objective of this scheme is to utilise the country's vast brackishwater area for shrimp culture. So far, an area of about 20,211 hectares has been developed for shrimp culture. Presently, Brackishwater Fish Farmers Development Agencies (BFDA) functioning in the coastal areas of the country, provide a package of technical, financial and extension support to shrimp farmers. Guidelines prepared for sustainable development and management of brackishwater aquaculture have been circulated to all maritime States and UTs and other agencies. The guidelines incorporate measures for mitigating the adverse impact, if any, of shrimp farming on the coastal eco-system. An aquaculture authority has been established under the Environment Protection Act to control the coastal aquaculture and to ensure that the aquaculture activities are carried out in an environment-friendly and sustainable manner.

DEVELOPMENT OF FISHING HARBOUR

Five major fishing harbours viz., Kochi, Chennai, Visakhapatnam, Roychowk and Paradip, 30 minor fishing harbours and 130 fish landing centres have been constructed and one major fishing harbour at Sassoon dock, 15 minor fishing harbours and 28 fish landing centres are under construction to provide landing and berthing facilities to fishing craft.

WELFARE PROGRAMMES FOR TRADITIONAL FISHERMEN

Important programmes for the welfare of traditional fishermen are: (i) Group Accident Insurance Scheme for active fishermen, (ii) Development of Model Fishermen Villages, and (iii) Saving-cum-Relief Scheme. From 2000-2001, fishermen are being insured for Rs 50,000 in case of death or permanent disability and Rs 25,000 in case of partial disability. Annual premium is shared equally between the Centre and the State. About 12.6 lakh fishermen were insured during 1998-99. Under the programme of Development of Model Fishermen Villages 49,000 houses have been sanctioned for fishermen. Besides tube wells and community halls have been provided. Under the Saving-cum-Relief component the marine fishermen contribute Rs 75 per month for eight months. This amount is returned to them during the four-month lean period along with an equal contribution from the Government, at the rate of Rs 300 per month. In case of inland fishermen the monthly contribution is Rs 50 per month for nine months and the fishermen get Rs 300 per month for three months.

SPECIALISED INSTITUTES

The Central Institute of Fisheries Nautical and Engineering Training, Kochi, aims at making available sufficient number of operators of deep-sea fishing vessels and technicians for shore establishments. It has a unit each at Chennai and Visakhapatnam. The Institute has an intake capacity of about 200 trainees per year. Integrated Fisheries Project, Kochi, envisages processing, popularising and test marketing of unconventional varieties of fish. The Central Institute of Coastal Engineering for Fisheries, Bangalore is engaged in techno-economic feasibility study for location of fishing harbour sites. Fishery Survey of India (FSI) is the nodal organisation responsible for survey and assessment of fishery resources under the Indian Exclusive Economic Zone (EEZ). It has seven operational bases at Mumbai, Porbandar, Kochi, Mormugao, Visakhapatnam, Chennai and Port Blair.

AGRICULTURAL CENSUS

The Department of Agriculture and Cooperation has been organising Agricultural Census in India on quinquennial basis since 1970-71 in collaboration with the States/UTs as a part of the World Agricultural Census programme in pursuance of the recommendations of the Food and Agricultural Organisation (FAO). So far five agricultural census' with reference years 1970-71, 1976-77, 1980-81, 1985-86 and 1991-92 have been completed and the Sixth Agricultural Census with reference year 1995-96 is in progress. Seventh Agricultural Census with reference year 2000-2001 (Agricultural year), which will be followed by an Input Survey with reference year 2000-2001 is at planning stage. Agricultural Census seeks to collect essential and reliable information on the distribution of holdings and area operated along with the related characteristics such as tenancy and terms of leasing, land use and cropping pattern, irrigation and source of irrigation, etc., by different size classes and social groups. The data is used for formulation of poverty alleviation programmes in general and relief to small and marginal farmers in particular.

An Input Survey, as a part of Agricultural Census Scheme, is also being conducted since 1976-77 on quinquennial basis. Input Survey provides useful information on consumption of various inputs such as fertilizers, pesticides, manures, agricultural machinery and implements and flow of credit to the agricultural holdings. So far four Input Surveys with reference years 1976-77, 1981-82, 1986-87 and 1991-92 have been conducted successfully. The target during 1999-2000 is : (i) to complete the field work of Agricultural Census 1995-96 in all States/UTs; (ii) to finalise the All India Bulletin in Input Survey 1991-92; (iii) to complete the field work of Input Survey 1996-97; (iv) to complete the data entry work of Schedules of Agricultural Census 1995-96; and (v) release of funds.

The achievement during the year has been: (i) field work of Agricultural Census 1995-96 is nearing completion; (ii) all results of Input Survey 1991-92 have been finalised; (iii) field work of Input Survey 1996-97 is nearing

completion; (iv) data entry work is in full swing; and (v) funds have been released as per the guidelines issued by the Department of Agriculture and Cooperation.

AGRICULTURAL RESEARCH AND EDUCATION

The Department of Agricultural Research and Education set up in 1973 in the Ministry of Agriculture is responsible for coordinating research and educational activities in agriculture, animal husbandry and fisheries. Besides, it helps to bring about interdepartmental and inter-institutional collaboration with national and international agencies engaged in the same and allied fields. The Department provides government support, service and linkage to the Indian Council of Agricultural Research (ICAR).

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

Indian Council of Agricultural Research (ICAR), the main organisation under the Department of Agricultural Research and Education (DARE) of the Ministry of Agriculture, has played a pivotal role in developing agricultural technologies, input material and critical scientific base leading to self-sufficiency in food. The ICAR is an autonomous apex body at national level, which promotes science and technology programmes in the areas of agricultural research, education and extension education. The Council is directly involved in undertaking fundamental as well as applied researches in the traditional and frontier areas to offer solutions to problems relating to the conservation and management of resources and productivity of crops, animals, fisheries, etc. The activities of the ICAR are organised into eight subject matter divisions, namely, Division of Crop Sciences, Horticulture, Natural Resource Management, Agricultural Engineering, Animal Sciences, Fisheries, Agricultural Extension and Agricultural Education.

AGRICULTURAL REASEACH

The research set-up of ICAR comprises 47 Central Institutes together with their 160 regional stations, four National Bureaux, 30 National Research centres, 10 Project Directorates and 80 All India Coordinated Research Projects (AICRPs)/networks and 16 other projects/programmes. For higher education in agriculture and allied fields there are four deemed universities, 30 state agricultural universities (SAUs) and one Central Agricultural University, at Imphal. The AICRPs are the main link between the ICAR and the SAUs. The number of centres involved in the AICRPs is about 1,300 of which about 900 are based in the agricultural universities and 200 in the ICAR institutes. The ICAR has also built 120 Zonal and 200 Sub-Zonal research centres located in different parts of the country for conducting research in agriculture and allied sciences. The coordinated research activities are not only multi-institutional but are also multi-disciplinary and multi-locational to cover whole spectrum of various situations and conditions.

CROP SCIENCE

India achieved a record production of 205.91 million tonnes during 1999-2000.

The production of rice and wheat was 88.25 million and 74.25 million tonnes respectively. With these production levels, India is the second largest producer of wheat and rice in the world. Development and adoption of improved technologies, particularly improved varieties possessing high yield, resistance to important diseases and pests, and other desirable traits, have played a major role in enhancing crop production and productivity. Significant increase in yields have been achieved four fold in wheat, three fold in rice, maize and cotton, two fold in sugarcane, sorghum and oilseeds, since independence. Over 2,300 high yielding varieties/hybrids of various field crops have been released. India is also the first in the world to have developed hybrid cotton, pearl millet (grain), castor and pigeonpea and second to develop hybrid rice. Promising hybrids have also been developed in sorghum and sunflower. In rice so far 19 hybrids have been released by public and private sectors.

Two Jai Vigyan National Science and Technology Missions—one on Conservation of Agro-biodiversity and another on Household Food and Nutritional Security through enhancement of production and productivity of life-support enterprises of tribal, backward and hilly areas have been launched.

In rice so far more than 500 high-yielding, early-to-very-early maturing, dwarf, disease/pest resistant varieties have been evolved. Varieties have been developed for practically every type of soil and agro-climatic conditions. Significant high yielding rice varieties developed are — *Aditya*, *Prasanna*, *Tulasi*, *Rasi*, *Krishna Hansa*, *Sasyashree*, *Vikas*, *Abhaya*, *Suraksha*, *Vikramanya*, *Phalgun*, *Nagarjuna*, *Swarnadhan*, *Vibhava*, *Pranava*, *Mansarovar*, *Salivahana* and *Nidhi Ajaya*. India has also developed new semi-dwarf high yielding varieties of *Basmati*. Prominent among these are : *Pusa Basmati-1*, *Haryana Basmati* and *Kasturi*. IARI is developing a hybrid *basmati* with an average yield of 65 q/ha. In recent years area under boro rice has increased in West Bengal, Assam, Bihar and Orissa. In addition to conventional improved varieties like *Gautam*, hybrid *CNRH-3* has been released for boro cultivation in West Bengal. Recently three varieties of rice (*Pooja*, *VL Dhan 81* and *CSR-13*) have been released. *Pooja* is adapted to shallow low lands, *VL Dhan 81* to hilly areas and *CSR-13* to alkaline/sodic soils.

Wheat is another most important cereals in India, contributing 36 per cent to country's total foodgrain basket. In terms of area cultivated under wheat (26 mha) and production (about 75 mt), India ranks second in the world. More than 250 high yielding, disease/pest resistant wheat varieties having good quality grains suitable for cultivation in different agro-climatic conditions have been evolved and released for cultivation. Good chapati-making and other desirable qualities, have been incorporated in a number of semi-dwarf high yielding wheat varieties. The latest improved varieties for the irrigated areas are *WH 542*, *UP 2338*, *PBW 342*, *Shrestha*, *UP 2425* for North-West Plains Zone, *K 8804*, *K9006*, *HP 1633*, *Malviya Wheat 468* for North-East Plains Zone and *HI 1077*, *GW 190* for Central Zone. *PBW 299*, *HW 2004*, *Sujata*, *K 8027 Abha* and *HI 1418* are suitable for rainfed

cultivations. Durum wheat, used for making instant food has high export potential in Middle East, South Africa and Mediterranean countries. *RAJ 1555*, *HI 8381*, *PDW 215*, *PDW 233*, *WH 896* and *Malav Shakti* are recent varieties of durum wheat having excellent grain quality and meet the requirements of importing countries. *Khapli* (dicocum) has high protein content and is suitable for South Indian dishes like *upma*. High yielding varieties of *Khapli* wheat, *DDK 1001* and *DDK 1009* have been released for peninsular India.

In maize more than 100 composites and hybrids with high yields have been developed so far. Early maturing single cross hybrids, *Pusa Hybrid 1*, *Pusa Hybrid 2*, *Parkash*, *FH 3047*, *Paras* are significant in improving the production. *Shakti 1* nutritionally superior quality maize released in 1997 is suitable for using as baby food, poultry feed and piggery industry. One single cross hybrid of maize, *Vivek Hybrid-4*, and one composite, *Gaurav*, released last year are suitable for cultivation in Central and in North-west India respectively.

In sorghum, two hybrids (*CSH-17* and *JKSH-2*) were approved for general cultivation. Hybrid *CSH-17* has high grain as well as fodder yield. In addition, there were three state releases, namely, *PSH-1*, *GJ-41* and *Jawahar Jowar-1041*. In Pearl Millet, five hybrids (*Pusa 415*, *Pusa 605*, *Nandi-8* and *32* and *MLBH-44*) and two varieties (*Pusa Composite 334* and *JB V-2*) were approved at the national level for general cultivation in different agro-ecological situations. In addition, one husk-less variety of barley (*HBL 276*), one variety of foxtail millet or *Kangani* (*PS-4*) and one variety of kodo millet (*KK-1*) were released at national/state level. In forage crops, one variety of cowpea (*UP-9202*) and two varieties of forage sorghum (*Safed Moti* and *Co 27*) were released.

In pulses, more than 400 high-yielding varieties and hybrids have been released so far. A major research breakthrough has been achieved through development of short duration varieties such as *moongbean* (60 days), *pigeonpea* (120 days) and *chickpea* (90 days). These have adaptability to different cropping systems and have high potential for expansion in many non-traditional areas. Short duration varieties of *pigeonpea* (*UPAS 120*, *Manak*, *ICPL 151* and *Paras*) which mature in less than 130 days have brought around two lakh hectares additional area of western Uttar Pradesh, Haryana, Punjab and north-western Rajasthan under *pigeonpea-wheat* sequential cropping system. A number of short-duration varieties of *pigeonpea* have also been developed for Maharashtra, Gujarat, Andhra Pradesh, Karnataka. Early maturing varieties of *moongbean* (*PDM 11* and *PDM 54*) and *urdbean* (*Pant U 19*, *PDU 1*, *UG 218*) have been released for cultivation in spring/summer season. These fit in a wide range of cropping systems involving rice, wheat, maize, sorghum and millets. Development of early maturing *chickpea* varieties (*Pusa 372*, *Uday*, *PBG 1* and *Pusa 256*) suitable for planting up to mid December have enabled the farmers to adopt rice-chickpea system in eastern UP and Bihar.

Eleven improved varieties of pulses were released during last one year. These include *Pusa 1003* and *BGD-72* of chickpea; *HUM-1* of moongbean; *TU 94-1* of urdbean; *RMO 257* of mothbean; *RGC 1003* and *HGS-563* of guar; *V 585* and *GC-3* of cowpea, and *AK 21* and *PHG-9* of horsegram. Moongbean variety *HUM 1* is suitable for cultivation in spring season in Central Zone and South Zone. It is resistant to yellow mosaic virus and matures in 65 days. Urdbean variety *TU 94-2* released for South Zone is resistant to powdery mildew.

Six improved varieties of oilseeds, namely, *CSMG-884* and *HNG-10* of groundnut; *JS 90-41* of soyabean and *LCK 9216*, *LMH-62* and *Jawahar linseed 9* of linseed were released during last one year. Soyabean variety *JS 90-41* is non-shattering type and groundnut variety *CSMG-884* is resistant to early and later leaf spot and bud necrosis. Linseed variety *LCK 9216* is double purpose and gives average seed and fibre yield of 10 q/ha and 7 q/ha, respectively.

In cotton India is the only country to have developed and grown hybrid cotton commercially—both the long-staple premier hybrid cotton *H4* and the extra-long staple interspecific *VARALAXMI* and *DCH 32*, *SUVIN* gives the finest-quality cotton with spinning performance of 120s counts. It is comparable with *GIZA 45*, the best Egyptian cotton. The latest additions are early-maturing hybrids, *FATEH*, *DHANLAXMI* and *RAJHANS* for Punjab, Haryana and Rajasthan, the north-west region. Production and plant-protection technologies for the crop are near perfect.

The Council has given high priority to development and promotion of Integrated Pest Management (IPM) methods to enable the farmers to adopt plant protection measures, which would be effective, environment friendly and cost effective. Among these, use of bio-control agents, pesticides of plant origin, use of plant protection chemicals with residues not exceeding toxic limits and employing newer methods for rodents, birds, nematodes, mite control, etc., were promoted. Region specific IPM modules have been developed for various pest intensive crops. Reproducible protocols developed for mass multiplication and release of biocontrol agents such as *Trichogramma* and *Chrysoperla* and biopesticides such as NPV are some of the major achievements of practical value. The successful IPM packages already developed for rice, cotton, sugarcane, pulses and oilseeds are being widely adopted.

HORTICULTURE

India is second highest producer of fruits (43 million tonnes) and vegetables (86 million tonnes) in the world. India produces 65 per cent of the world's mangos and 11 per cent of the world's bananas, ranking first for both the crops. The five fruits mango, banana, citrus, guava and apple account for 75 per cent of the total fruit production in the country. Dwarf, regular bearing and spongy tissue free hybrids of mangoes, developed through concerted efforts of agricultural scientists have led to marked increase in production and export of mango. *Mallika*, *Amrapali*, *Arka Puneet*, *Arka Aruna*, *Arka Anmol*,

Ratna and *Sindhu* are some of the promising hybrids. *Dasheri 51*, a regular bearing and high yielding *Dasheri* has also been developed by selection. In mango rejuvenation technology has been developed for old and unproductive trees. Guava variety *Lalit* has been released for commercial cultivation. It gives 24 per cent higher yield compared to the popular variety *Allahabad Sateda* and is suitable for both table and processing purposes. In grapes varieties like *Thomson* seedless have high export potential. Significant high-yielding and superior quality grape hybrids developed by scientists are *Arka Kanchan*, *Arka Neelmani*, *Arka Shwet*, *Arka Sonaka*, *Arka Soma* and *Akravati*.

Recent development of papaya hybrid *Surya* with red flesh and small fruits is significant. Expansion of *kinnow* mandarin in Punjab, Haryana, Rajasthan and Himachal Pradesh and commercialisation of arid fruit crops like *ber*, *anla* and pomegranate are other significant achievements. Technology has also been standardised for preparation and preservation of a number of fruit based carbonated drinks.

In vegetables development of hybrids of tomato, cabbage, cauliflower, onion, radish, brinjal, and chilly have led to year round availability of these crops. In potato, five new varieties, have been released.

Post-harvest losses have been significantly reduced through new packaging systems in grapes and Nagpur Mandarin.

A technique for converting sweet potato starch to multisyrup was standardised. The development of cassava starch based bio-degradable plastic has been a significant achievement. In floriculture, *gladiolus Shagun* and *Shiringarika* have been released for cultivation. A small flowered *chrysanthemum Diana* has been released. The hybrid *Pusa-Shankar-I* of marigold with orange coloured flowers has been found to be promising. In coconut, embryo culture technique has been standardised. Effective biological control for *Phytophthora* diseases of black pepper has been evolved.

ANIMAL SCIENCE

The National Bureau of Animal Genetic Resources has developed a fully operational information system on animal genetic resources of India. Breed calendar for 30 breeds of indigenous cattle and 10 breeds of indigenous buffalo was developed.

The crossbreeding programme in the country has led to the development of new strains of cattles namely *Karan Swiss*, *Karan Fries* and *Frieswal*. The National Dairy Research Institute, Karnal has achieved distinction of possessing a *Karan Fries Cow*, "*KAMDHENU*" which produced 44.2 kg milk per day at peak of lactation. Significant achievements have also been made in the livestock improvement for sheep, pig, rabbit, camel, yak, mithun, equine, goats. Poultry production has made notable strides. Improved strains of guinea fowl and quail have also been developed. For promoting backyard poultry production, *CARI GOLDEN* stocks were supplied in tribal areas of Orissa. *Vanaraja* and *Gram Priya* stains of backyard poultry were supplied

in the coastal regions of Southern States.

Technologies for improvement of cereal straws through alkali and urea treatment were developed. Biodegradable waste has been used as feed ingredient. Database was developed on Animal nutrition field at NIANP, Bangalore. Embryo technology was successfully used among buffalo, cattle, sheep and goat. In-vitro buffalo calves were successfully produced. 32 cell cloned embryo in buffaloes was produced.

ELISA based diagnostic kits for Infectious bovine rhinotracheitis (IBR), Blue Tongue (BT) and Brucella, kit for the diagnosis of blue tongue, ELISA Kit for FMD, a liquid phase blocking ELISA test, DOT-ELISA for quick diagnosis of hydropericardium syndrome (Litchi Disease), etc., were developed. A high Security Animal Disease Laboratory (P4 Biosafety) has been established at Bhopal.

A *makhana kheer* mix powder (ready to constitute by mixing water) was developed which has high sensory acceptability. Method for commercial production of *burfi* with extended shelf life was developed. Possibilities of commercial marketing of *kunda*, a traditional milk based delicacy from Karnataka has been explored. Process technologies for goat meat croquettes, chicken roll, fried chicken wings and egg-crust pizza were developed. Different types of hand-made felts were produced from wool and hair.

NATURAL RESOURCE MANAGEMENT

Greater emphasis is being placed on soil-resource inventory and on development of agricultural technologies that integrate efficient management of land, water, nutrients and other production inputs. For preparing land use plans and for developing locations specific agricultural technologies, it is important to have information on the extent and distribution of different soils, availability of water to match the crop needs beside information on weather parameters. So far the soil resource maps of 12 States and two Union Territories have been released. Thematic maps on various soils parameter for West Bengal, Gujarat and Pondicherry have also been brought out.

Cropping system research has resulted in development of several sustainable multiple cropping systems capable of producing 10-12 tonnes/hectares of rice, wheat, green gram and pearl millet from irrigated areas. Various pulse and oilseed combinations have been recommended for rainfed inter-crops which provide higher returns/unit area. Integrated weed control management has been recommended for major cropping systems. Alternate farming is replacing *Jhum* farming in North-East Hill Region. Crop weather relationship models have been developed for different agro-ecosystems. In nutrient management, optimum fertilizer schedules for the crop and cropping systems have been worked out based on soil tests to ensure balanced nutrition. Deficiency of micro and secondary nutrients have been delineated and corrective measures evolved. Techniques have been developed for recycling of organic wastes as manure.

In water management, water requirements of crops have been determined and irrigation schedules for crops and cropping systems of different agro-ecological situations advised. Methods for water economy have been evaluated for field adoption and surface and sub-surface drainage designing criteria have been enforced. Technologies developed for rain water harvesting and re-cycling and for water quality standards for irrigation have been tested.

Agro-forestry through the ages has been a production technique that combines agriculture and forestry horticulture on the same piece of land in order to fully utilize the natural resources, sunlight, water and nutrition. Several multipurpose tree species of fodder, fuel, timber value have been identified, evaluated and recommended for agro-forestry in different regions.

AGRICULTURAL ENGINEERING

ICAR has designed a variety of marketable implements and machines for field operations. Recently zero tillage seed drill has been developed for planting wheat immediately after rice to improve wheat productivity by overcoming delays in sowing. Eight-row rice transplanter and pre germinated rice seeders have been developed to reduce drudgery in rice transplanting. Other important machines developed recently include sugarcane planter, groundnut decorticator, mini dal mill, portable kinnow grader and high capacity multi-crop thresher.

A tractor mounted hydraulically controlled wetland leveler for preparation of puddle bed for rice cultivation was developed by Acharya N.G. Ranga Agricultural University (ANGRU), Hyderabad. Use of this implement result in 30 per cent saving in cost of operation as compared to animal drawn implements.

Tractor mounted multi-crop planters have been developed at Punjab Agricultural University (PAU), Ludhiana and the Central Institute of Agricultural Engineering (CIAE), Bhopal for sowing soyabean, maize, groundnut and soyabean-pigeonpea inter-crop. A tractor-mounted till planter has also been developed at PAU, Ludhiana.

For providing remunerative prices to the jaggery manufacturers/farmers, the technology for making jaggery chocolate has been developed at Govind Ballabh Pant University of Agriculture and Technology (GBPUA&T), Pantnagar.

CIRCOT, Mumbai has standardised a method of degumming ramie fibres under anaerobic conditions at room temperature. CIRCOT has also standardised an in-expensive method for treating the raw materials for seeding oyster mushrooms. A chemi-mechanical process of biopulping of jute stick, an abundantly available agro-waste of the country, and technique producing Ratine yarn have been developed by NIRJAFT, Calcutta. A superior shellac-based quick-drying baking type insulating varnish suitable for coating in electric motors, transformers has been developed by Indian Lac Research Institute (ILRI), Ranchi.

FISHERY SCIENCE

With about 5.4 million tonnes of fish production (both from marine and inland water resources), India ranges first among Commonwealth countries and seventh in the world. Our country is one of the biggest exporters of seafood in the world.

Breeding technologies for commercially important air breathing and non-air breathing carps, catfishes, seabass and hilsa have been perfected. Technology developed for repeated spawning of indigenous carps and air-breathing cat fishes twice or even thrice in a year, as also advancing or delaying or off season spawning, have revolutionised the fish breeding and production. Composite fish culture has revolutionized inland fisheries. The yield of ponds has increased from 50 kg/hectare/yr in the sixties to the current level of 2,000 kg/hectare/yr.

ICAR scientists have developed improved Rohu Carps through genetic selection. Masheer has been successfully conserved as a game and food fish in the higher altitude water bodies.

Post Harvest Technology and improved transportation have transformed traditional fish processing in India into a blue chip industry. Technologies have been developed for utilization of fish discards and discarded fish. These are : production of chitin and chitosan from crustacean waste for a variety of uses in pharmaceuticals, textile, cosmetics and paint industry. Absorbable surgical sutures have been developed from gut collagen of fish for eye and other micro-surgery.

AGRICULTURAL EDUCATION

The Council aids, promotes and coordinates agricultural education programmes at national level. The educational programmes are carried out by 30 State Agricultural Universities (SAUs), one Central Agricultural University at Imphal and four National Institutes namely Indian Agricultural Research Institute, New Delhi; Indian Veterinary Research Institute, Izatnagar; National Dairy Research Institute, Karnal and Central Institute of Fisheries Education, Mumbai which are deemed to be universities. In addition three Central universities - Banaras Hindu University, Vishva Bharati and Aligarh Muslim University, also have strong programmes in agricultural education. These institutions provide for UG education in eleven fields of specialisation in 193 constituent colleges with an intake capacity of above 10,000 students annually. Degrees are awarded in agriculture, veterinary sciences, agricultural engineering, forestry, home science, horticulture, food science, dairy technology, fisheries, sericulture and agricultural marketing. There are 65 disciplines in which specialisation at the PG programmes are available.

Thirty-five Centres of Advance Studies (CAS) have been established in different disciplines to promote researches in cutting edge areas of science

and develop trained human resource in these areas. The CAS conducts 2-3 weeks free training by inviting applications from SAUs and ICAR Institutes. The Council provides scholarship and fellowships to students, 300 at UG level and 475 at PG level. Project on Home Science is striving to sensitise and support empowerment of rural women.

Recognising the importance of education as an instrument for economic and social change, the ICAR in partnership with the World Bank, developed the Agricultural Human Resource Development (AHRD) project at the total project cost of 74.2 million dollars from 14 August 1995. The focus of the project is to improve the quality and relevance of higher agricultural education and to strengthen the capacity of participating states to develop and manage agricultural human resources. Four State Agricultural Universities were selected in the first phase of the project. The AHRD Phase-I has made significant contributions. New accreditation system has been developed and operationalised. New courses, viz., computer application, bio-statistics, biodiversity, biotechnology, agri-business management, marketing, environmental sciences, etc., have been incorporated in all the degree programmes. Rural Agricultural Work Experience (RAWE), Internship and In-plant Training programmes have been made compulsory for six months for all UG students. Besides, a total of 1,500 scientists are being trained annually and 525 scientists have been trained internationally so far. Other areas which have gained through AHRD Phase-1 include database for manpower in different disciplines of Deemed University Institutes and State Agricultural Universities and establishment of HRD/HRM Units in State Departments of Agriculture.

AGRICULTURAL EXTENSION

The Council helps in the assessment and refinement of technologies in all disciplines of research conducted in the system and disseminates the latest agricultural technologies to farmers, extension functionaries and other agencies involved in development of agriculture. The Council has 261 Krishi Vigyan Kendras (KVKs) located in various states. These KVKs perform on-farm testing/research, vocational training of farmers, farm women and rural youth, in-service training of grass-root level field functionaries and frontline demonstrations. These KVKs are district-level institutions run by the SAUs, ICAR institutes and selected non-governmental organisations. Each year about two lakh farmers are trained at these KVKs in the areas of crop husbandry, horticulture, animal husbandry and dairying, fisheries and vocations leading to self-employment. Eight Trainers' Training Centres (TTCs) are subject specific training institutions in dryland agriculture, horticulture, farm machines, inland fisheries, marine fisheries, hill agriculture, dairying and home science. Training is imparted to KVK scientists and subject matter specialists by these TTCs to update their skill.

The Council has also launched an innovative project called 'Institute-Village-Linkage Programme (IVLP)' to ensure greater scientists-farmers linkage.

IVLP also ensures access to agricultural technology generated by the agricultural research system in the country to the entire farming community in a village or a cluster of villages representing around 1,000 farm families. So far 42 centres have been identified to cover 42,000 farm families.

NATIONAL AGRICULTURAL TECHNOLOGY PROJECT

The objectives of the US \$ 240 million National Agricultural Technology Project (NATP) are to address national issues such as (i) national and household food security; (ii) poverty alleviation and equity; (iii) environmental quality and conservation of bio-diversity; (iv) sustainability in the use of natural resources; (v) product diversification to enhance rural income; (vi) welfare of tribal people, women and other disadvantaged groups and (vii) exploitation of commercially viable technologies and enhancing export potential. NATP supports research programmes under Team of Excellence (TOE), Mission Mode (MM), Production System Research (PSR), Technology Assessment and Refinement (TAR) through Institute Village Linkage Programme (IVLP) and Competitive Grant Programme (CGP). These programmes revolve around eight thematic areas.

Under the Innovations in Technology Dissemination (ITD), 53 Zonal Research Stations (ZRS) are remanded to function as KVKs. These ZRSs are being strengthened to serve their newly assigned roles of developing and testing location-specific technologies. Forty Agricultural Technology Information Centres (ATICs) have been established for providing single window support system linking various units of research institutions in ICAR/SAUs. In addition, eight Directorates of Extension Education in SAUs and 29 Zonal Coordinating Units are being strengthened. Agricultural Technology Management Agencies (ATMAs) are being established in 24 districts in Andhra Pradesh, Bihar, Himachal Pradesh, Maharashtra, Orissa and Punjab. The State Agriculture Management and Extension Training Institutes (SAMETIs) are being strengthened to train farmers and extension workers. Strategic Research and Extension Plans (SREPs) for the selected districts have been finalised for planning interventions.

INTERNATIONAL CO-OPERATION

To promote bilateral cooperation in the field of agricultural research, Department of Agricultural Research and Education (DARE) has signed Memorandum of Understanding (MOU)/agreements with various countries. Presently, DARE has institutional arrangements with Philippines, Cuba, Iran, Vietnam, USA, Australia, Tunisia, Trinidad and Tobago, Oman, Peru, Israel, Uganda, Egypt, Namibia and Uzbekistan. In addition, ICAR has concluded MOUs with 34 international organisations. The MOUs are implemented through exchange of scientists, germplasm and scientific literature and through collaborative research projects. The details of the activities proposed to be undertaken are included in a work plan prepared with the consent of both the parties for two years normally.

AGRICULTURAL MARKETING

DIRECTORATE OF MARKETING AND INSPECTION

The Directorate of Marketing and Inspection (DMI) under the Ministry of Agriculture, since 19 December 1998, advises the Central and State Governments on agricultural marketing policies and programmes and implements various schemes under them. It has its head-office at Faridabad, branch head-office at Nagpur, five regional offices, 37 sub-offices and 22 laboratories spread all over the country.

The DMI administers the Agricultural Produce Grading and Marking Act, 1937 as amended in 1986. The grade standards notified under the Act are popularly known as *Agmark* standards and such standards have been formulated and notified under the Act in respect of 162 agricultural and allied produce. As a result of special efforts initiated to increase grading under *Agmark*, 609 new packers were enrolled during 1998-99. During 1999-2000 (up to August 1999), commodities valued at Rs 39.80 crore were graded for export. Agricultural commodities worth Rs 1,864 crore were graded under *Agmark* up to August 1999 for domestic trade.

The DMI undertakes marketing, research, surveys and in-depth studies of marketing system for various agricultural commodities in the country and suggests remedial measures. The DMI conducted 25 Research Studies on various commodities during 1999-2000. Marketing Planning and Design Centre (MPDC) of DMI prepares State Master Plan for the development of Agricultural Produce Markets and imparts training to the personnel of State Governments/Marketing Boards. So far, DMI has brought out 325 reports on market surveys for various agricultural and allied commodities. DMI is also implementing a Scheme of Research Grants. 35 research studies are being carried out on subjects related to marketing. Under this scheme, an amount of Rs 10.38 lakh has been released to various research institutions/universities during 1999-2000. 21 Research Studies were completed during 1998 and 1999. The DMI is implementing the Meat Food Products Order, 1973 which stipulates ensuring quality control and hygienic manufacturing conditions of meat food products for domestic consumption. The Order is applicable all over the country. A total of 159 licences have been issued to the manufacturers operating under the Order.

The DMI carries out extension and publicity work among producers and consumers through various mass media. The DMI participated in India International Trade Fair, 1999 and AHARA-99 in New Delhi and organised exhibitions at Bhopal and Vijaywada. A quarterly journal "Agricultural Marketing" is brought out by DMI for the benefit of farmers, traders and consumers.

DMI, Faridabad has a sub-office at Guwahati catering to the requirements of *Agmark* and quality control for internal trade in the north-eastern states. It is proposed to set up an *Agmark* laboratory at Shillong.

NATIONAL INSTITUTE OF AGRICULTURAL MARKETING

The National Institute of Agricultural Marketing (NIAM) started functioning at Jaipur with effect from 8 August 1988. It has been imparting training to senior and middle-level executives of agricultural and horticultural departments, Agro Industries Corporations, commodity and apex level cooperatives, commodity boards, export houses recognised by APEDA, Commercial banks, NGOs as also to the farmers on marketing management.

During 1999-2000 (up to 9 December 1999) NIAM has conducted 25 training programmes. NIAM has taken up long-term projects for the formulation of master plans for the development of agricultural markets in Jammu & Kashmir, Andhra Pradesh and Sikkim. NIAM in collaboration with Institute of Rural Management (IRMA), Anand has undertaken a research project on the formulation of integrated action plan for the promotion of handicrafts and handlooms in Uttar Pradesh and West Bengal.

16 Water Resources

WATER is vital for realising the full potential of the agriculture sector and the country's development. Optimum development and efficient utilisation of our water resources, therefore, assumes great significance.

The Ministry of Water Resources lays down policies and programmes for development and regulation of the country's water resources. It covers sectoral planning, coordination, policy guidelines, technical examination and techno-economic appraisal of projects, providing Central assistance to specific projects, facilitation of external assistance and assistance in the resolution of inter-state water disputes, policy formulation, planning and guidance in respect of minor irrigation, command area development and development of ground water resources, etc.

The National Water Policy, adopted in September 1987, stresses that 'Water' is a prime natural resource, a basic human need and a precious national asset. Planning and development of water resources need to be governed by national perspectives. Since the adoption of the National Water Policy in 1987, a number of problems and challenges have emerged in the development and management of the water resources sector. Accordingly, the National Water Board in its meeting on 29 October 1998 reviewed the existing National Water Policy 1987, considered proposed changes, and finalised the updated draft National Water Policy. The updated draft National Water Policy will be placed before the National Water Resources Council for its consideration and adoption.

WATER RESOURCES POTENTIAL

The average run-off in the river system of the country has been assessed as 1,869 Km³ (cubic kilometres). Of this, the utilisable portion by conventional storage and diversion is estimated as about 690 Km³. In addition, there is substantial replenishable ground water potential in the country, estimated at 432 Km³. The per-capita availability of water at national level has reduced from about 5,177 m³ (cubic metres) in the year 1951 to the present level of 1,869m³, with great variation in water availability in different river basins.

IRRIGATION DEVELOPMENT

Expansion of irrigation facilities, along with consolidation of the existing systems, has been the main strategy for increasing production of foodgrains. Irrigation support is provided through major, medium and minor irrigation projects and command area development. With sustained and systematic development of irrigation, the irrigation potential has increased from 22.6 mha in 1951, when the process of planning began in India, to about 94.73 mha (provisional) at the end of 1999-2000. The statistics relating to irrigation

potential created and utilised under major, medium and minor irrigation during the various Five Year Plans, ground-water resources, and irrigation potential of India are given in tables 16.1 and 16.2 respectively.

TABLE 16.1 : PLANWISE POSITION OF IRRIGATION
POTENTIAL CREATED AND UTILISED

(in million Ha.)

Plan	Potential Created				Total	Potential Utilised				Total
	Major & Medium	Minor				Major & Medium	Minor			
		S.W. ¹	G.W. ²	Total			S.W. ¹	G.W. ²	Total	
1	2	3	4	5	6	7	8	9	10	11
At the end of										
- I Plan (1951-56)	12.20	6.43	7.63	14.06	26.26	10.98	6.43	7.63	14.06	25.04
- II Plan (1956-61)	14.33	6.45	8.30	14.75	29.08	13.05	6.45	8.30	14.75	27.80
- III Plan (1961-66)	16.57	6.48	10.52	17.00	33.57	15.17	6.48	10.52	17.00	32.17
- Annual Plans(1966-69)	18.10	6.50	12.50	19.00	37.10	16.75	6.50	12.50	19.00	35.75
- IV Plan (1969-74)	20.70	7.00	16.50	23.50	44.20	18.69	7.00	16.50	23.50	42.19
- V Plan (1974-78)	24.72	7.50	19.80	27.30	52.02	21.16	7.50	19.80	27.30	48.46
- Annual Plans(1978-80)	26.61	8.00	22.00	30.00	56.61	22.64	8.00	22.00	30.00	52.64
- VI Plan (1980-85)	27.70	9.70	27.82	37.52	65.22	23.57	9.01	26.24	35.25	58.82
- VII Plan (1985-90)	29.92	10.99	35.62	46.61	76.53	25.47	9.97	33.15	43.12	68.59
- Annual Plans(1990-92)	30.74	11.46	38.89	50.35	81.09	26.32	10.29	36.25	46.54	72.86
- VIII Plan (1992-97) (Provisional)	32.96	N.A. ³	N.A. ³	56.60	89.56	28.44	N.A. ³	N.A. ³	52.32	80.76
Annual Plan (1997-98)	33.64	N.A. ³	N.A. ³	57.62	91.26	28.93	N.A. ³	N.A. ³	53.05	81.98
Annual Plan (1998-99)	34.52	N.A. ³	N.A. ³	58.80	93.32	29.81	N.A. ³	N.A. ³	53.78	83.59
Annual Plan (1999-2000)	35.35	N.A. ³	N.A. ³	59.38	94.73	30.47	N.A. ³	N.A. ³	54.23	84.70

¹ S.W. - Surface water.

² G.W. - Ground water.

³ N.A. - Not available.

MAJOR AND MEDIUM IRRIGATION PROJECTS

Irrigation projects with a Culturable Command Area (CCA) between 2,000 and 10,000 hectares are classified as medium projects, and those with a CCA

TABLE 16.2 : GROUND-WATER RESOURCE AND IRRIGATION POTENTIAL OF INDIA

Sl. No.	States/ Utis	Total Replenishable Ground Water Resource	Provision for Domestic Industrial & Other Uses	Available Ground-Water Resource for Irrigation in Net Terms	Utilisable Ground-Water Resource for Irrigation in Net Terms	Gross Draft Estimated on Pro rata Basis	Net Draft	Balance Ground-Water Resource for Future Use in net terms	Level of Ground Water Development (%)	Weighted Average Delta (m)	Utilisable Irrigation Potential for Development (m.ha.)
1	2	3 (m.ha.m/Yr.)	4 (m.ha.m/Yr.)	5 (m.ha.m/Yr.)	6 (m.ha.m/Yr.)	7 (m.ha.m/Yr.)	8 (m.ha.m/Yr.)	9 (m.ha.m/Yr.)	10 (%)	11 (m)	12 (m.ha.)
1.	Andhra Pradesh	3.52916	0.52938	2.09978	2.69981	1.01318	0.70922	2.29056	23.64	0.047-1.472	3.96000
2.	Arunachal Pradesh	0.14385	0.02158	0.12227	0.11005	-	-	0.12227	-	-	0.01800
3.	Assam	2.47192	0.37079	2.10113	1.89102	0.13455	0.09418	2.00695	4.48	1.283	0.90000
4.	Bihar	3.35213	0.50282	2.84931	2.56439	0.78108	0.54676	2.30255	19.19	0.40-0.65	4.94763
5.	Goa	0.02182	0.00327	0.01865	0.01670	0.00210	0.00164	0.01701	8.30	0.570	0.02020
6.	Gujarat	2.03767	0.30565	1.73202	1.55881	1.02431	0.71702	1.01500	41.45	0.45-0.714	2.75590
7.	Haryana	0.85276	0.12792	0.72484	0.65236	0.86853	0.60798	0.11686	83.88	0.385-0.8	1.46170
8.	Himachal Pradesh	0.03660	0.00731	0.02929	0.02637	0.00757	0.00530	0.02300	18.10	0.385	0.00850
9.	Jammu & Kashmir	0.044257	0.06639	0.37618	0.33858	0.00713	0.00500	0.37118	1.33	0.385-0.6	0.70795
10.	Karnataka	1.61857	0.24279	1.37578	1.23821	0.61443	0.43010	0.94568	31.26	0.18-0.74	2.57281
11.	Kerala	0.79003	0.13135	0.65868	0.59281	0.14374	0.10062	0.55806	15.28	0.53-0.88	0.87925
12.	Madhya Pradesh	5.08892	0.76332	4.32560	3.89298	1.01866	0.71312	3.61249	16.49	0.400	9.73249
13.	Maharashtra	3.78673	1.23972	2.54701	2.29231	1.10576	0.77403	1.77298	30.39	0.43-1.281	3.65197
14.	Manipur	0.31540	0.04730	0.26810	0.24129	Neg.	Neg.	0.26810	Neg.	0.650	0.36900
15.	Meghalaya	0.05397	0.00810	0.04587	0.04128	0.00260	0.00182	0.04405	Neg.	0.650	0.06351
16.	Mizoram	-	-	-	-	Not Assessed	-	-	-	-	-
17.	Nagaland	0.07240	0.01090	0.06150	0.05535	Neg.	Neg.	0.06150	Neg.	-	-
18.	Orissa	2.00014	0.30002	1.70012	1.53009	0.20447	0.14313	1.55699	8.42	0.34-0.44	4.20258
19.	Punjab	1.86550	0.18652	1.67898	1.51109	2.25109	1.57576	0.10322	93.85	0.518	2.91715
20.	Rajasthan	1.27076	0.19945	1.07131	0.96418	0.77483	0.54238	0.52893	50.63	0.457-0.6	1.77783
21.	Sikkim	-	-	-	-	Not Assessed	-	-	-	-	-
22.	Tamil Nadu	2.63912	0.39586	2.24326	2.01892	1.93683	1.35578	0.88748	60.44	0.37-0.93	2.83205
23.	Tripura	0.06634	0.00995	0.05639	0.05076	0.02692	0.01885	0.03754	33.43	0.30	0.08056
24.	Uttar Pradesh	8.38210	1.25743	7.12467	6.41233	3.83364	2.68354	4.44113	37.67	0.20-0.50	16.79896
25.	West Bengal	2.30923	0.34642	1.96281	1.76653	0.67794	0.47452	1.48829	24.18	0.33-0.75	3.31794
	Total States	43.14769	7.07414	36.07355	32.46621	16.42936	11.50055	24.57300	31.88	-	64.04513

1	2	3	4	5	6	7	8	9	10	11	12
UNION TERRITORIES											
1.	Andaman & Nicobar Islands	Not Assessed									
2.	Chandigarh	0.002968	-	-	-	0.00351	0.002454	0.000512	-	-	-
3.	Dadar & Nagar Haveli	0.004220	0.000633	0.003587	-	0.00065	0.000457	0.003130	12.74	0.640	0.00504
4.	Daman & Diu	0.001300	0.000200	0.001100	0.00099	0.00129	0.000900	0.000200	-	-	-
5.	NCT of Delhi	0.029154	0.017832	-	-	0.01684	0.011800	-	-	-	-
6.	Lakshadweep	0.000243	-	-	-	0.00022	0.000155	0.000088	63.79	-	-
7.	Pondicherry	0.0002877	0.000432	0.002445	0.00220	0.00085	0.000595	0.001850	24.34	-	-
	Total UTs	0.040760	0.019197	0.007132	0.00642	0.02336	0.016362	0.005780	-	-	0.00504
	GRAND TOTAL	43.18850	7.093337	36.08062	32.47264	16.45272	11.516912	24.57878	31.02	-	64.05017

NOTE

1. Col. 5 = Ground Water Resource — Provision of Domestic, Industrial & Other Uses (Col. 3 — Col. 4).

2. Col. 6 = 90% of Column 5.

3. Col. 7 = Gross draft is the total withdrawal from Ground Water Resource for Irrigation.

4. Col. 8 = 70% of Gross draft (bulk of the losses return back to the Ground Water Reservoir).

5. Col. 9 = Col. 5 — Col. 8 in net terms.

6. Col. 10 = Level of Ground Water Development (Col. 8/ Col. 5) \times 100.

7. Col. 12 = Utilisable Ground Water Resource for Irrigation/ Weighted Average Delta (Col. 6/ Col. 11).

(This is 90% of ultimate irrigation potential which was computed as per available ground water resource for irrigation and limited it as per the land availability).

Utilisable irrigation potential has been kept as 90% of the ultimate irrigation potential which is reasonable in view of the following:-

1. To ensure sustainable development, the level of extraction has to be kept at a level reasonably lower than the ultimate availability.
2. To maintain river ecology, minimum flows have to be ensured by limiting extraction of ground water, which contributes to the lean season flows in the rivers.

of more than 10,000 hectares as major projects. The expenditure incurred on major and medium projects and the irrigation potential created during the various plan periods are given in table 16.3. At the end of the Eighth Plan, there were 162 major and 240 medium, and 74 extension, renovation and modernisation schemes continuing from the previous plans which spilled over to the Ninth Plan, with a total spill-over cost of Rs 68,044 crore.

TABLE 16.3 : MAJOR AND MEDIUM IRRIGATION PROJECTS
(EXPENDITURE INCURRED AND POTENTIAL CREATED)

Period	Outlay/ expenditure (Rs crore)	Potential created (mha)	Cumulative (mha)
1	2	3	4
Pre-Plan period	Not available	9.70	9.70
First Plan (1951-56)	376	2.50	12.20
Second Plan (1956-61)	380	2.13	14.33
Third Plan (1961-66)	576	2.24	16.57
Annual Plans (1966-69)	430	1.53	18.10
Fourth Plan (1969-74)	1,242	2.60	20.70
Fifth Plan (1974-78)	2,516	4.02	24.72
Annual Plans (1978-80)	2,079	1.89	26.61
Sixth Plan (1980-85)	7,369	1.09	27.70
Seventh Plan (1985-90)	11,107	2.22	29.92
Annual Plans (1990-92)	5,459	0.82	30.74
Eighth Plan (1992-97)	21,168	2.22	32.96
Annual Plans (1997-98)	7,566	0.68	33.64
Annual Plans (1998-99)	9,322	0.88	34.52
Annual Plans (1999-2000)	8,363	0.83	35.35

ACCELERATED IRRIGATION BENEFITS PROGRAMME

A large number of irrigation projects have been launched since the beginning of the era of Planning in India. However, many projects remained incomplete owing to financial constraints of the States. An Accelerated Irrigation Benefits Programme (AIBP) was launched during 1996-97 to give loan assistance to the States to help them complete some of the incomplete projects. Details of Loan Assistance released to 25 States from 1996-97 onwards are given below :

TABLE 16.4 : CENTRAL LOAN ASSISTANCE RELEASED UNDER ACCELERATED IRRIGATION BENEFITS PROGRAMME

Sl. No.	State	Amount released (in Rs crore)			
		1996-97	1997-98	1998-99	1999-2000
1.	Andhra Pradesh	35.25	74.00	79.67	65.015
2.	Arunachal Pradesh	-	-	-	7.50
3.	Assam	5.23	12.40	13.95	14.54
4.	Bihar	13.50	14.04	47.82	144.04
5.	Gujarat	74.77	196.90	423.82	272.700
6.	Goa	-	5.25	-	3.500
7.	Haryana	32.50	12.00	-	-
8.	Himachal Pradesh	-	6.50	5.00	21.172
9.	Jammu & Kashmir	1.30	-	-	4.68
10.	Karnataka	61.25	90.50	94.50	157.14
11.	Kerala	3.75	15.00	-	-
12.	Madhya Pradesh	63.25	114.50	90.75	105.845
13.	Maharashtra	14.00	55.00	50.86	48.875
14.	Manipur	4.30	26.00	10.78	21.810
15.	Meghalaya	-	-	-	2.6938
16.	Mizoram	-	-	-	1.433
17.	Nagaland	-	-	-	2.73
18.	Orissa	48.25	85.00	71.50	90.25
19.	Punjab	67.50	100.00	-	42.000
20.	Rajasthan	2.67	42.00	140.05	106.665
21.	Sikkim	-	-	-	1.36
22.	Tamil Nadu	20.00	-	-	-
23.	Tripura	3.77	5.10	3.97	34.653
24.	Uttar Pradesh	43.50	78.00	76.50	286.00
25.	West Bengal	5.00	20.00	10.00	25.00
TOTAL :		500.00	952.19	1,119.18	1,460.6018

HYDROLOGY PROJECT

The Government of India has launched a Hydrology Project with World Bank (IDA) credit assistance of 90.1 million Special Drawing Rights (US \$ 142 million). Besides, under the bilateral India-Dutch agreement, the Government of Netherlands is providing a grant-in-aid assistance of 29.9 million Dutch guilders (US \$ 17.4 million) in the form of Technical Assistance as consultancy services and overseas training to all participating States and Central agencies. The project is being implemented in Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa and Tamil Nadu and five Central agencies viz; Central Water Commission, Central Ground Water Board,

Central Water & Power Research Station, Pune, National Institute of Hydrology, Roorkee and India Meteorological Department.

The project commenced in September 1995 for a period of six years. The total cost of the project has been estimated at Rs 608.97 crore with the Central and State components as Rs 224.35 crore and Rs 384.62 crore respectively.

The main objective of the project is to improve the infrastructure and staff capabilities of the Central and State agencies involved in surface and ground water hydrology in the project area for collection and management of hydrometric and water quality data and the use of such data for water resources evaluation and management. The activities under the project include upgradation of infrastructure for collection of hydrological and hydrometeorological data; provision of equipment and materials; training and technical assistance; and institutional strengthening including new buildings and incremental operating and maintenance costs. Under the project, interactive computerized data banks within the Central Water Commission, Central Ground-Water Board and State agencies responsible for surface and ground-water data collection will be developed, so that reliable data on quantity of water resources can be made available to the planners and users.

COMMAND AREA DEVELOPMENT PROGRAMME

The Centrally-sponsored Command Area Development (CAD) Programme was launched in 1974-75, with the main objectives of improving the utilisation of created irrigation potential and optimising agriculture production and productivity from irrigated lands on a sustainable basis, by integrating all functions related with irrigated agriculture through a multi disciplinary team under an Area Development Authority.

Beginning with 60 major and medium irrigation projects in 1974, with a Culturable Command Area (CCA) of about 15 m. ha, a number of projects were included subsequently and a few were deleted. As on March 2000, 228 projects are covered under the Programme with a CCA of 22.27 m. ha (million hectares) spread over 23 States and two Union Territories. Since inception, an amount of Rs 2,143.52 crore has been released to the State Governments as Central share of assistance for different activities of the programme. An amount of Rs 165.92 crore was spent during 1999-2000.

The programme involves execution of On Farm Development (OFD) works like construction of field channels and field drains, land levelling and shaping and conjunctive use of surface and ground water. Warabandi or a rotational system of distribution of irrigation water is undertaken with a view to ensure equitable and timely supply of water to the farmers' fields. Adaptive Trials/Demonstration and Training of farmers and functionaries of implementing departments are encouraged to disseminate the technical know-how among the farmers for establishing suitable cropping patterns and improving farm practices without disturbing soil health.

During Ninth Plan, the Ministry had identified three items of work as thrust areas namely (1) Participatory Irrigation Management (PIM), (2) Reclamation of waterlogged areas in the commands of on-going CAI projects and (3) Dissemination of technical know-how to farmers and functionaries.

The involvement of farmers in the management of irrigation is essential for better utilisation of water for irrigation. As an incentive to the Farmers Associations/Water Users' Associations, a one time functional grant of Rs 500 per hectare (to be shared as Rs 225 per ha by Centre Rs 225 per ha by State and Rs 50 per ha by Farmers' Associations) is provided to registered and functional Farmers' Associations. Reclamation of waterlogged areas in irrigated commands is also an important component of the programme. To disseminate technical know-how among functionaries and farmers, adaptive trials/demonstration in the farmers' fields and training of farmers and functionaries has been an important activity.

MINOR IRRIGATION

All groundwater and surface schemes having a Culturable Command Area (CCA) up to 2,000 hectares individually are classified as minor irrigation schemes. The development of groundwater is mostly done through individual and cooperative efforts of the farmers, with the help of institutional finance and through own savings. Surface minor irrigation schemes are generally funded from the public sector outlay. Irrigation potential created and utilised under minor irrigation during the various plan periods is given in table 16.5

TABLE 16.5 IRRIGATION POTENTIAL CREATED
AND UTILISED UNDER MINOR IRRIGATION

Plan	(In million hectares)	
	Potential	Utilisation
At the end of the Pre-Plan up to 1951	12.90	12.90
First Plan (1951-56)	14.06	14.06
Second Plan (1956-61)	14.75	14.75
Third Plan (1961-66)	17.00	17.00
Annual Plans (1966-69)	19.00	19.00
Fourth Plan (1969-74)	23.50	23.50
Fifth Plan (1974-78)	27.30	27.30
Annual Plans (1978-80)	30.00	30.00
Sixth Plan (1980-85)	37.52	35.25
Seventh Plan (1985-90)	46.61	43.12
Annual Plans (1990-92)	50.35	46.54
Eighth Plan (1992-97) ¹	56.60	52.32
During 1997-98 ¹	1.02	0.73
During 1998-99 ¹	1.17	0.73
During 1999-2000 ¹	0.58	0.45

¹ Provisional

The Ministry of Water Resources has been operating the Centrally-sponsored Scheme of Rationalisation of Minor Irrigation Statistics since the Seventh Five Year Plan. As a part of Rationalisation of Minor Irrigation Statistics, the first census of Minor Irrigation works with base year as 1986-87 has already been conducted. The second census of Minor Irrigation works with base line data for 1993-94 is currently being undertaken.

FLOOD MANAGEMENT

Of the country's total geographical area of 328 mha (million hectares), 40 mha is prone to floods, out of which 32 mha can be protected. So far, an area of 14.4 mha has been provided with a reasonable degree of flood protection, by construction of embankments, drainage channels, town protection works and by raising villages. The cumulative expenditure on such works up to the end of the Eighth Plan is anticipated to be Rs 4,970.57 crore. The total area likely to be benefited up to the end of the Eighth Plan will be about 16.02 mha. Non-structural measures like flood plain zoning, flood-proofing and flood-forecasting are now being given priority to mitigate losses from floods.

Although Flood Management is a State subject, the Union Government provides Central assistance to states for a few specified schemes which are technical and promotional in nature, such as critical anti-erosion works in Ganga Basin States, maintenance of flood-protection works of Kosi and Gandak projects, etc.

The Central Water Commission is engaged in flood-forecasting on inter-state rivers through its 21 field divisions throughout the country. Forecasts are being issued at 157 stations on the various inter-state rivers and tributaries, except Indus. These forecasts are normally issued 24 hours in advance and are found to be useful for civil and engineering authorities for arranging relief and rescue measures, and for the protection of engineering structures. During the flood season of 1999, 6,511 forecasts were issued by the Central Water Commission.

RIVER WATER DISPUTES

The major rivers of the country are mostly inter-State rivers. With increasing demand, there has been increasing demand for water in all sectors, sometimes leading to inter-State disputes about the sharing of waters of these rivers. Efforts are made to resolve disputes through negotiations amongst the basin States with the assistance of the Central Government. Adjudication through the appointment of water disputes tribunals is also resorted to, as and when warranted.

So far the following tribunals have been appointed to resolve inter-State water disputes : (i) the Godavari Water Disputes Tribunal ; (ii) the Krishna Water Disputes Tribunal ; (iii) the Narmada Water Disputes Tribunal ; (iv) the Ravi and Beas Waters Tribunal and (v) the Cauvery Water Disputes Tribunal. The first three Tribunals have given their final reports.

GROUND WATER DEVELOPMENT

In India ground water has been used for irrigation and domestic water supply since time immemorial. At present, more than 70 per cent of the population uses ground water for its domestic needs and more than half of irrigation is provided from this source.

The total replenishable ground water in India is estimated to be about 43.19 million hectare metre per year (about 432 billion cubic metre). About 7.1 m.ha m/yr is for domestic and industrial use. It is estimated that about 32.47 m ha m/yr is available for irrigation. According to an estimate by Central Ground Water Board, 32 per cent of available ground water resources have so far been developed in the country.

In spite of the overall satisfactory availability of ground water, there are some areas in the country, which face scarcity of ground water. The reason for this is that the development of ground water in different areas of the country has not been uniform. Highly intensive development of ground water in certain areas in the country has resulted in its over-exploitation leading to a fall in the level of ground water and salinity ingress in coastal areas.

Out of 4,272 blocks in the country (except Andhra Pradesh, Gujarat and Maharashtra, where ground water resources assessment has been carried out on the basis of *mandals*, *talukas* and watersheds respectively), 231 blocks have been categorized as 'Over exploited', i.e., the stage of ground water development exceeds the annual replenishable recharge, and 107 blocks are 'Dark', i.e., the stage of ground water development is more than 85 per cent. Besides, six *mandals* have been categorised as 'Over-exploited' and 24 as 'Dark' out of 1,104 *mandals* in Andhra Pradesh. Similarly, in Gujarat out of 184 *talukas*, 12 are 'Over-exploited' and 14 are 'Dark' and out of 1,503 watersheds in Maharashtra, 34 are 'Dark'.

The ground water in most of the areas in the country is fresh. Brackish ground water occurs in the arid zones of Rajasthan, close to Coastal tracts in Saurashtra and Kutch, some areas in the east coast and some pockets in Punjab and Haryana. However, contaminants and pollutants are being found increasingly in ground water, which make it unutilisable for drinking, and in some cases injurious to health.

NATIONAL COMMISSION FOR INTEGRATED WATER RESOURCES DEVELOPMENT PLAN

The Ministry of Water Resources had constituted a National Commission for Integrated Water Resources Development Plan under the Chairmanship of Dr S.R. Hashim, Member, Planning Commission. The terms of reference of the Commission were : (i) to prepare an integrated water plan for development of water resources for drinking, irrigation, industrial, flood control and other uses ; (ii) to suggest modalities for transfer of surplus water to water-deficit basins by interlinking of rivers for achieving the above objectives ; (iii) to identify important ongoing projects as well as new projects which should be

completed on priority basis together with phasing ; (iv) to identify a technological and inter-disciplinary research plan for the water sector with a view to maximize the benefits ; (v) to suggest physical and financial resource generation strategies for the water sector ; and (vi) any other related issues. The Commission submitted its report to the Union Government on 1 December 1999. The Ministry of Water Resources has now set up an Implementation Cell and an Advisory Committee for taking further action to examine the recommendations of the Commission.

NATIONAL WATER BOARD

The National Water Board was constituted by the Government in September 1990 to review the progress of implementation of the National Water Policy, and to report to the National Water Resources Council for initiating effective measures for systematic development of the country's water resources. A number of policy issues such as the Water Information Bill, setting up of river basin organisations, the national policy on resettlement and rehabilitation of persons affected by river valley projects, national policy guidelines on water allocation of inter-state rivers amongst states, etc., have been considered by the Board.

NATIONAL WATER RESOURCES COUNCIL

The National Water Resources Council was set up by the Government of India in March 1983 as a national apex body, with the Prime Minister as the Chairman, Union Minister of Water Resources as Vice-Chairman and concerned Union Ministers, Chief Ministers of State Governments and Administrators/ Lt. Governors of the Union Territories as Members. The Secretary, Ministry of Water Resources is the Secretary of the Council. The Council has held three meetings so far. The National Water Policy was adopted unanimously at the second meeting held on 9 September 1987.

INTERNATIONAL COOPERATION

INDO-BHUTAN PROJECTS

The Government of India has been assisting the Royal Government of Bhutan for hydro-power development and establishment of a hydro-meteorological and flood-forecasting network on rivers common to India and Bhutan. Following the signing of the Memorandum of Understanding (MoU) in January 1993 between India and Bhutan, the Detailed Project Report for the Sankosh Multipurpose Project was completed in December 1995. Studies have also been conducted on Environment Impact Assessment and socio-economic aspects of the projects. The works were carried out in Bhutanese as well as India's territory.

INDO-BANGLADESH COOPERATION

Following the signing of the Indo-Bangladesh Ganga water sharing Treaty in December 1996, joint measurements during lean season (January-May) of 1997 and 1998 were conducted. Joint measurement of 1999 lean season is also going

on smoothly. The existing system of transmission of flood forecasting data on major rivers like Ganga, Teesta, Brahmaputra and Barak during the monsoon season from India to Bangladesh was continued.

India and Bangladesh are jointly conducting scientific studies and field investigations to determine the reasons for the discrepancies in the flows related at Farakka on the Ganga, and those that arrive at Hardinge bridge. During 1999-2000, erosion in River Kashiara on both sides of the Indo-Bangladesh border at Karimganj-Zakiganj in Assam was inspected, and the data of four common rivers of Manu, Khowai, Gumiti & Muhuri was exchanged.

INDO-NEPAL COOPERATION

The treaty between His Majesty's Government of Nepal and Government of India concerning the integrated development of the Mahakali River, including the Sarda Barrage, Tanakpur Barrage and Pancheswar Project, was signed on 12 February 1996. During the visit of the Prime Minister of India to Nepal in June 1997, the instruments for ratification of Mahakali Treaty were exchanged, as a result of which the treaty came into force with effect from 6 June 1997. Under the treaty, the Pancheswar Multipurpose Project is to be taken up for implementation. The detailed project report is being prepared jointly by the two countries. The Sapta Kosi High Dam Project is an important storage project having multipurpose benefits. The modalities for joint survey and investigation of this project will be finalised in the next meeting.

INDUS WATER TREATY/PERMANENT INDUS COMMISSION

Under the Indus Water Treaty 1960, India and Pakistan have created two permanent posts of Commissioner for Indus Waters, one each in India and Pakistan. The two Commissioners together form the Permanent Indus Commission. The Commission in its meeting held in May 1999 finalised the Annual Report ending 31 March 1999. Flood-warning arrangements were made by India through priority telegrams, telephones and radio broadcasts for the benefit of Pakistan during the period from 1 July to 10 October 1999, for the Indus system of rivers. The Commission undertook a general tour of inspection of project sites in Punjab, followed by a special meeting from 24-30 March 2000.

EXTERNAL ASSISTANCE

The extension of irrigation to the various regions of the country is a national priority. The Ministry assists the State Governments in tying up external assistance from the different donor agencies, to bridge the resource gap for harnessing their irrigation potential.

International support for development of the country's water resources comes from agencies like the World Bank and EEC and from bilateral donors such as Japan, Germany, Netherlands, France, etc. The World Bank assistance in the water resources sector is up to 75 per cent. At present there are

20 ongoing projects with external assistance from the World Bank and other bilateral agencies/ countries in various States. External assistance amounting to Rs 874.14 crore was received during 1999-2000.

CENTRAL ORGANISATIONS

CENTRAL WATER COMMISSION

The Central Water Commission (CWC) is responsible for initiating, coordinating and furthering in consultation with the State Governments concerned, schemes for the control, conservation and utilisation of water resources for the purposes of flood management, irrigation, navigation and water power generation throughout the country. The Commission, if so required, also undertakes the construction and execution of specific projects. Over the years, the Commission has developed considerable technical know-how in plan formulation, appraisal, design of major hydraulic structures and projects for development of water resources.

CENTRAL SOIL & MATERIALS RESEARCH STATION

The Central Soil & Materials Research Station (CSMRS), New Delhi deals with field exploration, laboratory investigations, basic and applied research in the field of geomechanics and construction materials relevant to river valley projects. The Research Station primarily functions as adviser and consultant to various departments of Government of India, State Governments and Government of India Undertakings/ Enterprises. The activities of the Research Station broadly cover Soil Mechanics ; Soil Dynamics ; Rockfill Technology; Rock Mechanics ; Foundation Engineering ; Concrete Technology ; Construction Materials ; Geophysical Investigations ; Field instrumentation and Chemical Analysis and Grouting.

SUBORDINATE ORGANISATIONS

CENTRAL WATER AND POWER RESEARCH STATION

The Central Water and Power Research Station (CWPRS), Pune provides comprehensive Research and Development support to a variety of projects in the areas of water and energy resources development and water borne transport. It has taken up projects in selected disciplines such as ship hydrodynamics, photo-elasticity, hydro-machinery, coastal engineering, hydraulic instrumentation, earth sciences, hydraulic structures and information technology, over the last four decades. The infrastructure developed with these inputs over the successive Five Year Plans has paved the way for work in the areas of 'Mathematical Modelling of Fluvial and Ocean Hydromechanics' and 'Automated Operation of Irrigation Canal Systems'.

CENTRAL GROUND WATER BOARD

Central Ground Water Board (CGWB) is responsible for carrying out scientific development and management of groundwater resources from national perspective. The regional Hydrogeological surveys of the country have already

been completed and the Board is currently conducting reappraisal surveys every fifth year to assess the impact of groundwater development on the groundwater regime, and to update the status of development of groundwater resources and water quality. Under the reappraisal surveys, areas having specific problems like waterlogging, declining groundwater levels and groundwater pollution, etc., are accorded priority. Special emphasis is being laid now on monitoring of groundwater levels and water quality through a network of about 15,000 observation stations in the country. In order to promote the scientific management of groundwater resources, specially in the problematic areas, the Board is undertaking pilot projects for augmenting recharge of groundwater in the States of Karnataka, Maharashtra, National Capital Territory of Delhi, Union Territory of Chandigarh and some other states. Studies on the conjunctive use of surface and groundwater are also being undertaken in specific areas to work out the best possible option for optimal development of the total water resources with minimum deleterious effects.

In pursuance of the order passed by the Supreme Court of India in December 1996, the Notification constituting the Central Ground Water Board as an Authority under the Environment (Protection) Act, 1986 for the purposes of regulation and control of groundwater management and development was issued. The Authority constituted in January 1997, however, started functioning during 1998-99. The Central Ground Water Authority has been entrusted with the work of regulation, control, development and management of groundwater throughout the country. The Authority has organised mass awareness programmes at 34 different locations of the country. Seven areas namely: (i) Najafgarh block, National Capital Territory of Delhi; (ii) Mehrauli block, NCT of Delhi; (iii) Municipal Corporations of Faridabad and Ballabhgarh, Haryana; (iv) Ludhiana City, Punjab; (v) Union Territory of Diu; (vi) Municipal Corporation of Ghaziabad, (UP); and (vii) Jhotwara Block, Rajasthan, have been declared as notified areas; where, either due to problem of over exploitation of groundwater or its quality deterioration, further construction and installation of groundwater abstraction structures without prior approval of Authority is prohibited. The Authority has also started registration of groundwater abstraction structures in these areas. The Authority is also registering groundwater abstraction structures in municipal corporation limits of: Patna, Vadodara, Ambala, Bangalore, Thiruvananthapuram, Raipur, Amritsar, Madurai, Lucknow, Yaval block, Bhilwara town and industrial area. Registration of persons/agencies engaged in construction of water wells has also been taken up by the Authority. Sixteen industrial establishments were also cleared for drawal of groundwater. A web-site on Roof Top Rain Water Harvesting was launched for dissemination of information to users.

FARAKKA BARRAGE PROJECT

The Farakka Barrage Project is designed to serve the need of preservation and maintenance of Calcutta Port by improving the regime and navigability of

the Bhagirathi-Hooghly river system. The river Bhagirathi, the Feeder Canal and Navigation Lock at Farakka form part of the Haldia-Allahabad Inland waterway. The principal components of the project are : (a) a 2,245 metre-long barrage across the Ganga with a rail-cum-road bridge, necessary river training works, and a head regulator on the right side ; (b) a 213 metre-long barrage across the river Bhagirathi at Jangipur ; (c) feeder canal of 1,113 cubic metres per second (cumec) (40,000 cusec) carrying capacity and 38.38 km long, taking off from the head Regulator on the right of the Farakka Barrage and (d) navigation works such as locks, lock channels, shelter basins, navigation lights and other infrastructures.

The Farakka Barrage Hydro Electric Project, with a capacity of 125 MW generation, estimated to cost Rs 602 crore, is under consideration. The Government has decided to implement this project through private participation on Build, Own and Operate (BOO) basis.

SARDAR SAROVAR CONSTRUCTION ADVISORY COMMITTEE

The Sardar Sarovar Construction Advisory Committee (SSCAC) located at Vadodara, was constituted in 1980 as per the directive of the Narmada Water Disputes Tribunal (NWDT), for scrutiny of estimates, technical features, design and to monitor the progress of the construction activity of Unit-I (Dam and Appurtenant Works) and Unit-III (Hydro-Power Complex) of the Sardar Sarovar Project (SSP). The Secretary, Ministry of Water Resources, is the Chairman of the Committee. The officers of the concerned Departments of the Government of India, the States of Gujarat, Maharashtra, Madhya Pradesh and Rajasthan and Narmada Control Authority (NCA) are members of the Committee.

BANSAGAR CONTROL BOARD

The Bansagar Control Board was constituted by the erstwhile Ministry of Agriculture and Irrigation, in consultation with the Governments of Madhya Pradesh, Bihar and Uttar Pradesh, by a resolution dated 30 January 1976 with a view to ensuring efficient, economical and early execution of the Bansagar Dam on Sone River, including all connected works in Madhya Pradesh but excluding the canal systems. The headquarters of the Board is at Rewa (Madhya Pradesh). The Union Minister of Water Resources is the Chairman of the Board and the Union Minister of State for Water Resources, the Union Minister of Power, Chief Ministers, Ministers-in-charge of Irrigation and Finance Ministers of the three States and the Minister-in-charge of Power, Madhya Pradesh are its members.

GANGA FLOOD CONTROL COMMISSION

The Ganga Flood Control Commission was established in April 1972, with headquarters at Patna. It serves as the executive limb of the Ganga Flood Control Board, which is headed by the Union Minister of Water Resources and has as its members, the Chief Ministers or their representatives of the

basin States and concerned Union Ministers, and acts as the Secretariat of the Board. The Commission is headed by a Chairman, who is assisted by two full-time members and other officers and staff. The representatives of the concerned Central Ministries and Departments as well as the Chief Engineers of the basin States are either part-time members or permanent invitees to the Commission.

PUBLIC SECTOR UNDERTAKINGS

WATER AND POWER CONSULTANCY SERVICES (INDIA) LIMITED

Water and Power Consultancy Services (India) Limited (WAPCOS), a public-sector undertaking under the Ministry of Water Resources, provides integrated technical consultancy services in the water and power sectors in India and abroad. It was established in 1969. Besides the traditional specialisations like irrigation and drainage, flood control and reclamation, WAPCOS' specialisation covers disciplines like water supply and sanitation (rural and urban), ground-water exploration and development, hydro/thermal power generation, transmission and distribution, integrated agricultural development, ports and harbours, environmental engineering, dam safety and surveillance, etc.

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

The National Projects Construction Corporation Limited (NPCC Limited), a Government of India enterprise, was established in 1957 for developing infrastructure in the core sectors of irrigation and water resources, power and heavy industry. The Corporation has to its credit execution of more than 120 projects, i.e., irrigation/river valley projects, barrages, canals, hydro and thermal power projects, tunnels and industrial projects/ steel plants, residential buildings and township projects, bridges, express highways and runways and others like water and sewerage treatment plants on turnkey basis.

OTHER ORGANISATIONS

NARMADA CONTROL AUTHORITY

In pursuance of the decision of the Narmada Water Disputes Tribunal, the Government of India framed the Narmada Water Schemes, which, among other things, constituted Narmada Control Authority and a Review Committee in 1980 for implementation of the decisions and directions of the Tribunal. The Narmada Control Authority is headed by Secretary, Ministry of Water Resources, Government of India, as its Chairman, with secretaries of Ministry of Power, Ministry of Environment & Forests and Ministry of Welfare, Government of India, Chief Secretaries of the four party States (Gujarat, Madhya Pradesh, Maharashtra and Rajasthan), one executive member and three full-time members appointed by the Central Government, and four part-time engineering members nominated by the party States, as members. The Review Committee is headed by the Union Minister of Water Resources with Chief Ministers of the four party States as its members.

TUNGABHADRA BOARD

The Tungabhadra Board was constituted by the President of India in exercise of the power vested under Section 66(4) of the Andhra State Act, 1953, for completion of the Tungabhadra Project and for its operation and maintenance. The Board is responsible for the common portion of the Tungabhadra Project. The Krishna Water Disputes Tribunal has made specific provision in the Award for the use of Tungabhadra water by the States of Karnataka and Andhra Pradesh. The responsibility for carrying out this specific provision relating to the use of Tungabhadra Waters has been entrusted to the Tungabhadra Board by the Tribunal. The Board is regulating the water for irrigation, hydro-power generation and other uses on the right bank.

At present, the Board consists of a Chairman appointed by the Government of India, a member from Government of India and two members, one each representing Andhra Pradesh and Karnataka, all working part-time in the Tungabhadra Board. An officer of Central Government appointed as the Secretary of the Board is also the Chief Executive of the Board. The funds for the functioning of the Board are provided by the two State Governments.

BETWA RIVER BOARD

The Betwa River Board was constituted under the Betwa River Board Act, 1976 by the Ministry of Water Resources, for efficient, economical and early execution of the Rajghat Dam Project, a joint venture of Madhya Pradesh and Uttar Pradesh. The headquarters of the Board is at Jhansi (Uttar Pradesh). The Union Minister of Water Resources is the Chairman of the Board and Union Minister of Energy, Chief Ministers and Ministers-in-charge of Finance, Irrigation and Power of the two States are its members. The activities of the Board are managed by the Executive Committee of the Board under the Chairmanship of the Chairman, Central Water Commission. The funds for construction of the Rajghat Dam and Power House Projects and for meeting the expenses of the office of the Board are borne by the States of Madhya Pradesh and Uttar Pradesh in equal proportions.

The Rajghat Dam and Rajghat Hydro-electric Projects are inter-State projects of Madhya Pradesh and Uttar Pradesh. Construction of the Dam and its appurtenant works and civil works of powerhouses are being executed by the Betwa River Board. The Electrical & Mechanical works of the powerhouses are being executed by the Madhya Pradesh Electricity Board under the overall supervision of the Betwa River Board. The works of canals are being executed by the two States themselves in their respective territories. The estimated cost of the Rajghat Dam is Rs 266.16 crore, and that of the power house Rs 123.63 crore. The Rajghat Dam is almost complete. All the three units of Rajghat Hydro-electric Projects have been synchronized during 1999.

NATIONAL INSTITUTE OF HYDROLOGY

The National Institute of Hydrology (NIH) was set up with headquarters at Roorkee by the Government of India in 1979 for undertaking, promoting and

coordinating systematic, scientific works in all aspects of hydrology. The Institute is an autonomous society under the Ministry of Water Resources. The Union Minister of Water Resources is the President of NIH Society.

BRAHMAPUTRA BOARD

The Brahmaputra Board, an autonomous statutory body, was set up in 1982 for the planning and implementation of multi-purpose measures for the control of floods and bank erosion in the Brahmaputra valley (including Barak valley) and some rivers of Tripura. The Board has prepared the Master Plan Part-I for mainstream of the river Brahmaputra, Part-II for the Barak and its tributaries. The Board has taken up preparation of Master Plans for the tributaries of the Brahmaputra and detailed project reports in respect of Dams and other projects proposed in the master plans. The Board is also taking up functions such as implementation of flood control, drainage and flood proofing schemes in the North-East, monitoring of implementation of master plan, and a campaign for bringing up mass awareness in management of floods.

NATIONAL WATER DEVELOPMENT AGENCY

Suggestions for a National Water Grid envisaging interlinking of rivers with a view to transferring surplus water available in some regions to water deficit areas have been made from time to time. The Government of India prepared a National Perspective Plan for Water Resources Development in August 1980 envisaging interlinkages between various Peninsular rivers and Himalayan rivers for transfer of water from water-surplus basins for optimum utilisation of water resources. The Government of India established the National Water Development Agency (NWDA) in 1982 to firm up these proposals. A total of 30 water transfer links, 16 under Peninsular Component and 14 under Himalayan Component have been identified by the National Water Development Agency for preparation of feasibility reports.

Under the Peninsular Component, the Agency has already completed data collection and water balance studies of 137 basins/sub-basins and at 52 identified diversion points, toposheet studies of 58 identified storages and 18 link alignments, and prepared pre-feasibility reports of 17 proposed water transfer links. Presently, the work of field surveys and investigations for preparation of feasibility reports of link schemes is on hand. Feasibility reports of five links have already been completed. During 1999-2000, survey and investigations for preparation of feasibility reports of additional eight links namely, Mahanadi (Manibhadra) — Godavari (Dowlaiswaram) link ; Krishna (Almati) — Pennar link ; Krishna (Nagarjunasagar) — Pennar (Somasila) link; Damanganga — Pinjal link ; Parbati — Kalisindh — Chambal link, Godavari (Inchampalli Low Dam)- Krishna (Nagarjunasagar Tail Pond) Link ; Pennar (Somasila)- Cauvery (Grand Anicut) link and Cauvery (Kattalai) — Vaigai — Gundar Link remained in progress.

The component of Himalayan rivers development envisages construction

of storage reservoirs on the principal tributaries of Ganga and Brahmaputra in India, Nepal and Bhutan along with interlinking canal systems to transfer surplus flows of the eastern tributaries of the Ganga to the west, apart from linking of the Brahmaputra and its tributaries with the Ganga and the Ganga with the Mahanadi. It will also provide necessary augmentation of flows at Farakka to flush the Calcutta Port and facilitate inland navigation facilities across the country.

Under the Himalayan Component, NWDA has already completed water balance studies at 19 diversion points, toposheet studies of 16 storage sites and 19 link alignments and prepared pre-feasibility reports of 14 proposed water transfer links. During 1999-2000, the work of survey and investigations for preparation of feasibility reports of seven links namely, Manas-Sankosh-Tista-Ganga link, Sarda-Yamuna link, Ghagra-Yamuna link, Ganga-Damodar-Subernarekha link, Yamuna-Rajasthan link, Chunar-Sone Barrage link and Sone-STG (Southern Tributaries of Ganga) link remained in progress.

It is proposed to complete the feasibility reports of the remaining Peninsular and Himalayan links in a period of about five and 10 years respectively. Implementation of the inter-basin water transfer link schemes can be taken up in a phased manner depending on the priorities of the Government and availability of funds. But before this, certain other steps viz., negotiations and agreements amongst the states involved in inter-basin transfer, preparation of detailed project reports (DPRs), techno-economic appraisal of DPRs and investment clearance of the schemes, funding arrangements and fixing of agencies for execution, etc., would be necessary.

17 Rural Development

RURAL India is where three-fourths of our countrymen live. The nation can, therefore, be strong and prosperous only when all villages are freed from backwardness and poverty. The Government of India is committed to the cause of bringing about rapid and sustainable development in rural areas.

The Ministry of Rural Development is engaged in implementing a number of schemes, which aim at enabling rural people to improve their living standards. Eradication of poverty and the ushering in of speedy socio-economic progress is the goal with which the development programmes are being implemented through a multipronged strategy, reaching out to the most disadvantaged sections of society. High priority is being accorded to provide clean drinking water, rural housing and road connectivity.

The social security programmes are being strengthened for providing assistance to the destitute and the downtrodden. Assistance and encouragement to voluntary agencies and training of functionaries forms part of the emphasis on accelerated rural development. The Ministry is constantly endeavouring to empower the *Panchayati Raj* Institutions in terms of functions, powers and finance. In the new initiative the *Gram Sabha* has become the most significant institution. Non-Government Organisations, self-help groups and *Panchayati Raj* institutions have been accorded adequate role to make participatory democracy meaningful and effective. Development of wastelands, desert and drought prone areas has also been undertaken alongwith land reforms.

By way of a holistic approach to the task of ensuring sustainable development of land, the Ministry has created two more departments - Department of Land Resources and Department of Drinking Water Supply - in addition to the Department of Rural Development. This will facilitate coordinated policy interventions as well as quality improvement in the related development schemes.

The allocation of funds for rural development has been stepped up from Rs 30,000 crore in the Eighth Plan to Rs 42,874 crore in the Ninth Plan. The Ministry of Rural Development has a plan allocation of Rs 9,760 crore for the year 2000-2001. This includes Rs 6,760 crore for the schemes of the Department of Rural Development, Rs 900 crore for those of the Department of Land Resources and Rs 2,100 crore for the schemes of the Department of Drinking Water Supply.

PANCHAYATI RAJ

Panchayats have been the backbone of the Indian villages since the beginning of the recorded history. Gandhiji's dream of every village being a republic has been translated into reality with the introduction of the three-tier *Panchayati Raj* system to enlist the people's participation in rural reconstruction. 24 April

1993 is a landmark day in the history of *Panchayati Raj* in India as on this day the Constitution (73rd Amendment) Act, 1992 came into force to provide constitutional status to the *Panchayati Raj* institutions. The salient features of the Act are: (i) to provide three-tier system of *Panchayati Raj* for all States having population of over 20 lakh; (ii) to hold *Panchayat* elections regularly every five years; (iii) to provide reservation of seats for scheduled castes, scheduled tribes and women (not less than one-third of total seats); (iv) to appoint State Finance Commissions to make recommendations regarding financial powers of the *Panchayats*; and (v) to constitute District Planning Committee to prepare draft development plan for the district as a whole.

According to the Constitution, *Panchayats* shall be given powers and authority to function as institutions of self-government. The powers and responsibilities to be delegated to *Panchayats* at the appropriate level are: (a) preparation of a plan for economic development and social justice, (b) implementation of schemes for economic development and social justice in relation to 29 subjects given in the Eleventh Schedule of the Constitution and (c) to levy, collect and appropriate taxes, duties, tolls and fees.

The provisions of the *Panchayats* (Extension to the Scheduled Areas) Act, 1996 extends *Panchayats* to the tribal areas of eight States, namely, Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Maharashtra, Madhya Pradesh, Orissa and Rajasthan. This has come into force on 24 December 1996. Except Bihar, all States have passed laws to give effect to the provisions contained in the Act, 40 of 1996.

The Constitution (73rd Amendment) Act gives constitutional status to the *Gram Sabha*. As per Article 243(b) of the Constitution of India, *Gram Sabha* means a body consisting of persons registered in the electoral rolls relating to a village comprised within the area of *Gram Panchayat*. According to Article 243(a), a *Gram Sabha* may exercise such powers and perform such functions at the village level as the Legislature of a State may, by law, provide. Thus, all villagers above the age of 18 years have an inherent right to determine their own destiny. *Gram Sabha* is the forum where the marginalised poor can influence decisions affecting their lives.

The *Gram Sabha* has a key role in bringing about transparency in the functioning of the *Gram Panchayats*, in ensuring equitable distribution of benefits, in creation of community assets where these are needed and in bringing about social cohesion. It has been envisaged that *Gram Sabhas* shall: plan and prioritise development works to be taken up in the village; approve annual plan for the *Gram Panchayat*; seek active participation of women, scheduled castes and scheduled tribes; ensure transparency in the working of the *Gram Panchayat*; exercise the right to check the accounts of the *Gram Panchayat*; select beneficiaries under various schemes of the Central Government as well as the State Governments; approve the works to be undertaken for rural development; and move towards full control over management of natural resources of the village.

The year 1999-2000 was observed as the "Year of Gram Sabha".

The Ministry of Rural Development extends limited financial assistance to the States to impart training to and create awareness among the elected representatives of *Panchayats* and concerned government functionaries. The Ministry has been providing financial assistance through the Council for Advancement of People's Action and Rural Technology (CAPART) to the non-governmental organisations for conducting training and awareness generation programmes on *Panchayati Raj*. The Ministry also commissions research and evaluation studies related to *Panchayati Raj* from voluntary organisations/institutions.

SWARNJAYANTI GRAM SWAROZGAR YOJANA

A new holistic self-employment programme, namely, *Swarnjayanti Gram Swarozgar Yojana* (SGSY) was launched on 1 April 1999. With this, the erstwhile programmes, viz., Integrated Rural Development Programme (IRDP), Development of Women & Children in Rural Areas (DWCRA), Training of Rural Youth for Self-Employment (TRYSEM), Supply of Improved Tool-Kits to Rural Artisans (SITRA), *Ganga Kalyan Yojana* (GKY) and Million Wells Scheme (MWS) ceased to be in operation. SGSY has been devised keeping in view the positive aspects as well as deficiencies of the earlier programmes.

SGSY has the definite aim of improving the family incomes of the rural poor and, at the same time, providing for flexibility of design at the grassroots level to suit the local needs and resources. The objective of the restructuring is to make the programme more effective in providing sustainable income generation through micro-enterprise development, both land-based and otherwise.

It aims at establishing a large number of micro-enterprises in the rural areas. The 'beneficiaries' families (known as *Swarozgaris*) may be individuals or groups (Self-Help Groups). The objective is to bring every assisted family above the poverty-line in three years subject to the availability of funds. In establishing the micro-enterprises, the emphasis is on the cluster approach. For this, 4-5 key activities are identified in each block based on the resources, occupational skills of the people and the availability of markets. The key activities are to be selected with the approval of the *Panchayat Samitis* at the block level and the District Rural Development Agency (DRDA)/*Zila Parishad* (ZP) at the district level. The major share of SGSY assistance is in activity clusters. SGSY adopts a project approach for each key activity. Project reports are prepared in respect of identified key activities. The existing infrastructure for the cluster of activities is reviewed and gaps identified. A fund known as 'SGSY Infrastructure Fund' is maintained by the DRDAs and can also be utilised to generate additional funding from other sources. The effort under SGSY is to cover 30 per cent of the poor in each block in the next five years. Care is taken to ensure that the maximum number of *Panchayats* are covered without jeopardizing the quality of the programme. SGSY focuses on group approach. This would involve organisation of the poor into Self-Help Groups

(SHGs) and their capacity building. Efforts are made to involve women members in each SHG. At Block level, at least half of the groups are exclusively women groups. Group activity is given preference and progressively, majority of the funding will be for Self-Help Groups. The Gram Sabha authenticates the list of the families below the poverty-line identified in the BPL census.

SGSY is a credit-cum-subsidy programme. Credit is the critical component in SGSY, subsidy being only an enabling element. Accordingly, SGSY envisages a greater involvement of the banks in the planning and preparation of projects, identification of activity clusters, choice of activity of the SHGs, selection of individual *Swarozgaris*, pre-credit activities and post-credit monitoring including loan recovery, etc. It seeks to lay emphasis on skill development through well-designed training courses. Those who have been sanctioned loans are assessed and given necessary training. SGSY ensures upgradation of the technology in the identified activity clusters. The technology intervention seeks to add value to the local resources. SGSY provides for promotion of marketing of the goods produced by the SGSY *Swarozgaris*. Subsidy under SGSY is uniform at 30 per cent of the project cost, subject to a maximum of Rs 7,500. In respect of SCs/STs, however, these are 50 per cent and Rs 10,000 respectively. For groups of *Swarozgaris* (SHGs), the subsidy is at 50 per cent of the cost of the scheme, subject to a ceiling of Rs 1.25 lakh. There is no monetary limit on subsidy for irrigation projects. SGSY has a special focus on the vulnerable groups among the rural poor. Accordingly, the SCs/STs would account for at least 50 per cent of the *Swarozgaris*, women for 40 per cent and the disabled for 3 per cent. SGSY is implemented by the DRDAs through the *Panchayat Samitis*. The process of planning, implementation and monitoring integrates the banks and other financial institutions, the PRIs, NGOs, as well as technical institutions in the district.

Funds under the SGSY are shared by Central and State Governments in the ratio of 75:25. The Central allocation earmarked for the States is distributed according to the incidence of poverty in the States. However, additional parameters like absorption capacity and special requirement are also taken into consideration during the course of the year.

An expenditure of Rs 955 crore was incurred and a credit of Rs 1,028 crore was mobilised during 1999-2000. A total of 2.89 lakh self help groups were formed and 9.31 lakh *Swarozgaris* assisted. The budget for the year 2000-2001 is Rs 1,000 crore.

EMPLOYMENT ASSURANCE SCHEME

Employment Assurance Scheme (EAS) was launched on 2 October 1993 for implementation in 1,778 identified backward *Panchayat Samitis* of 257 districts located in the drought prone areas, desert areas and hill areas in which the Revamped Public Distribution System (RPDS) was in operation. Later, the scheme was extended to the remaining *Panchayat Samitis* of the country in phased manner and finally universalised in 1997-98 to cover all the 5,448 rural *Panchayat Samitis* of the country. The scheme has been restructured with effect

from 1 April 1999 and as a result became an allocation-based single wage employment programme.

The primary objective of the Scheme is to create additional wage employment opportunities during the period of acute shortage of wage employment through manual work for the rural poor living below the poverty-line. The secondary objective is the creation of durable community, social and economic assets for sustained development.

EAS is open to all the rural poor who are in need of wage employment. However, preference is given to persons belonging to the SCs/STs as well as parents of the child labour withdrawn from the hazardous occupations. The resources under the scheme are shared between Centre and States in the ratio of 75:25 respectively.

During 1999-2000 Rs 1,736.42 crore were released by the Central Government for EAS. A total of 2,024.74 lakh mandays of employment were generated by spending Rs 1,592.54 crore. The Central allocation for 2000-2001 is Rs 1,300 crore.

NATIONAL SOCIAL ASSISTANCE PROGRAMME

The National Social Assistance Programme (NSAP) which came into effect from 15 August 1995, is a Centrally-sponsored programme. A provision of Rs 715 crore has been made for the programme in the budget for 2000-2001. It has three components, namely, National Old Age Pension Scheme (NOAPS), National Family Benefit Scheme (NFBS) and National Maternity Benefit Scheme (NMBS), all of which provide for social security in case of old age, death of the primary breadwinner and during maternity.

National Old Age Pension Scheme (NOAPS) – Central assistance is available at the rate of Rs 75 per month to persons who are aged 65 years or more and are destitutes. About 49,13,693 people were covered under the Scheme in 1999-2000 (provisional). National Family Benefit Scheme (NFBS) — Central assistance is available as a lumpsum family benefit for households below the poverty-line on the death of the primary bread winner in the bereaved family. The amount of assistance is Rs 10,000. The age of the primary breadwinner should have been more than 18 years but less than 65 years. Nearly 1,74,725 families were covered under the Scheme during 1999-2000 (provisional). National Maternity Benefit Scheme (NMBS)—Central assistance is available to the pregnant women belonging to households below the poverty-line up to the first two live births, provided they are 19 years of age and above. A lumpsum cash assistance of Rs 500 is disbursed several weeks prior to the delivery. In case of delay, the benefit may be given even after the birth of the child. There were 11,61,368 women beneficiaries under the scheme during 1999-2000.

Annapurna Scheme - The *Annapurna* Scheme has been launched with effect from 1 April 2000 to provide food security to those senior citizens (65

years or above) who though eligible have remained uncovered under the National Old Age Pension Scheme. Under the Scheme, each beneficiary is provided 10 kg of foodgrains per month free of cost. A budgetary provision of Rs 100 crore has been made for the scheme during 2000-2001.

JAWAHAR GRAM SAMRIDHI YOJANA

Jawahar Gram Samridhi Yojana (JGSY) is the restructured and comprehensive version of the erstwhile *Jawahar Rozgar Yojana* (JRY). Launched on 1 April 1999, it has been designed to improve the quality of life of the rural poor. JGSY is implemented throughout the country in all the village *panchayats* except in Delhi and Chandigarh. The main objective of JGSY is to create demand-driven village infrastructure including durable assets for increasing the opportunities for sustained employment and generation of supplementary employment for the under employed poor in the rural areas. The unemployed/under employed people living in villages constitute the target group of JGSY. Special safeguards are provided under the scheme to the weaker sections of the community.

The expenditure for the scheme is shared between the Centre and the State in the ratio of 75:25. In the case of Union Territories, entire expenditure is met by the Centre. The programme is being implemented entirely at the village *panchayat* level. The District Rural Development Agencies (DRDAs)/*Zila Parishads* (ZPs) release the funds including States matching share directly to village *panchayats*. Village *Panchayat* is the sole authority for preparation of the annual action plan and its implementation with the approval of *Gram Sabha*.

22.5 per cent of JGSY funds have been earmarked for individual beneficiary schemes for SCs/STs. Three per cent of annual allocation is utilised for creation of barrier free infrastructure for the disabled. Thirty per cent of the employment opportunities are reserved for the women. Wages under JGSY are either minimum wages notified in the Minimum Wages Act or higher wages fixed by the State Government. Village *Panchayats* have the power to execute works/schemes up to Rs 50,000 with the approval of *Gram Sabha*. However, for works/schemes costing more than Rs 50,000, after taking the approval of the *Gam Sabha*, the Village *Panchayat* seeks the technical/administrative approval of appropriate authorities. Village *Panchayats* are allowed to incur expenditure up to Rs 7,500 or 7.5 per cent of funds, whichever is less, in a year on administrative expenditure/contingency and for taking technical consultancy. 15 per cent of funds can be spent on maintenance of assets. The funds to the Village *Panchayats* are allocated on the basis of population without any ceiling. DRDA/ZP/Intermediate *Panchayats* are responsible for overall guidance, coordination, supervision, monitoring and periodical reporting. The Central allocation for the Scheme is Rs 1,65,500 lakh for 2000-2001.

PRADHAN MANTRI GRAMODAYA YOJANA

A new initiative in the form of *Pradhan Mantri Gramodaya Yojana* (PMGY)

has been introduced during the current year to achieve the objective of sustainable human development at the village level. The PMGY envisages allocation of additional Central assistance to States and Union Territories for the selected Basic Minimum Services in order to focus on certain priority areas of the Government. Total allocation for the scheme is Rs 5,000 crore in the annual plan 2000-2001. It has two components, viz., Rural Roads having an allocation Rs 2,500 crore and the other component covering five programmes for primary health, primary education, rural shelter, rural drinking water and nutrition, having a total allocation of Rs 2,500 crore. The Ministry of Rural Development is the administrative Ministry responsible for the implementation of the rural roads component in the form of Prime Minister's Rural Roads Scheme and the two components of rural drinking water supply and rural shelter.

Prime Minister's Rural Roads Scheme—The Central Government has devised a well-conceived and time-bound programme for rural roads which aims at connecting within the next three years, every village that has a population of more than 1,000 through good all-weather roads. By 2007, every village with a population of more than 500 will be similarly connected. Government allocation for the project in its first year is Rs 5,000 crore.

Pradhan Mantri Gramodaya Yojana—Rural Drinking Water: The Department of Drinking Water Supply of the Ministry will manage and implement the Rural Drinking Water component of the PMGY. The Government of India has issued guidelines for the implementation of PMGY-Rural Drinking Water. The agencies which are implementing Accelerated Rural Water Supply Programme (ARWSP), are also to implement the PMGY-Rural Drinking Water. Under the scheme it is envisaged to make provision of potable drinking water in rural Not Covered (NC) and Partially Covered (PC) habitations, tackle quality-related problems like fluoride, Arsenic and Iron contamination, brackishness and also sustainability of drinking water sources.

RURAL WATER SUPPLY PROGRAMME

Drinking water supply is a State subject. Funds have been provided in the budgets of the States for drinking water supply right from the commencement of the first Five Year Plan. Drinking water facilities to rural habitations are provided under the State Sector Minimum Needs Programme (MNP). The Central Government endeavours to supplement the efforts of the States by providing assistance under the Centrally-Sponsored Accelerated Rural Water Supply Programme (ARWSP). Also, powers have been delegated to the States to plan and implement the rural water supply schemes.

The National Agenda for Governance of the Central Government envisages provision of safe drinking water to all in the next five years. The strategy to achieve the objective of providing drinking water to all rural habitations revolves around the following issues: Accelerating the coverage of remaining "Not Covered and Partially Covered" habitations with safe drinking water systems; To tackle the problems of water quality in affected

habitations and to institutionalise water quality monitoring and surveillance systems; and to promote sustainability, both of systems and sources, to ensure continued supply of safe drinking water in "Covered" habitations.

An investment of about Rs 27,000 crore has been made in the water supply sector till date. Status of coverage of rural habitations as on 1 April 2000 (provisional), is as follows: (i) Fully covered: 11,71,104; (ii) Partially covered: 2,23,916; (iii) Not covered: 27,644. Ninety-eight per cent of rural habitations have access to drinking water facilities. The number of hand pumps and piped water supply schemes is 30 lakh and 1,16,500 respectively.

The Government of India has revamped the Rural Water Supply Programme which, *inter alia*, envisages institutionalisation of community-based rural water supply systems by incorporating the following basic principles for ensuring peoples' participation: (i) Adoption of a demand-driven responsive and adaptable approach based on empowerment of villagers to ensure their full participation in the project through a decision-making role in the choice of scheme design, control of finances and management arrangements; (ii) Shifting role of Government from direct service delivery to that of facilitator; and (iii) Partial cost sharing either in cash or kind or both and 100 per cent responsibility of Operation and Maintenance by end-users. Fifty eight districts all over the country have been identified for implementing the sector reform projects on a pilot basis.

RURAL HOUSING

PRADHAN MANTRI GRAMODAYA YOJANA (GRAMIN AWAAS)

While the Ministry of Rural Development is already implementing schemes, including the *Indira Awaas Yojana* (IAY), in the sphere of Rural Housing, considering the magnitude of the task it has been felt to be imperative to supplement the efforts being made in this direction through the introduction of a Comprehensive Scheme which aims at reducing the shortage of houses for below poverty-line (BPL) families in the rural areas and also assists in the healthy development of the habitat in these areas. The *Pradhan Mantri Gramodaya Yojana* (*Gramin Awaas*) will, generally, be based on the pattern of the *Indira Awaas Yojana* and will be implemented in the rural areas throughout the country.

INDIRA AWAAS YOJANA

With a view to meeting the housing needs of the rural poor, *Indira Awaas Yojana* (IAY) was launched in May 1985 as a sub-scheme of *Jawahar Rozgar Yojana*. It is being implemented as an independent scheme since 1 January 1996. The *Indira Awaas Yojana* aims at helping rural people below the poverty-line belonging to SCs/STs, freed bonded labourers and non-SC/ST categories in construction of dwelling units and upgradation of existing unserviceable *kutchha* houses by providing grant-in aid. From 1995-96, the IAY benefits have been extended to widows or next-of kin of defence personnel killed in action. Benefits have also been extended to ex-servicemen and retired members of the

paramilitary forces as long as they fulfil the normal eligibility conditions of *Indira Awaas Yojana*. Three per cent of funds are reserved for the disabled persons living below the poverty-line in rural areas.

Under the Scheme, allotment of the house is done in the name of the female member of the household or in the joint names of husband and wife. A minimum of 60 per cent of funds are to be utilised for construction of houses for the SC/ST people. Sanitary latrine and smokeless *chulha* are integral to an IAY house. Selection of beneficiaries under IAY is done by the *Gram Sabha*. Selection of construction technology, materials and design is left entirely to the choice of beneficiaries. Assistance for construction of new houses is provided at the rate of Rs 20,000 and Rs 22,000 per unit in the plains and hilly/difficult areas respectively. Assistance for upgradation of unserviceable *kutcha* houses at the rate of Rs 10,000 per unit has also been introduced from the year 1999-2000. 20 per cent of IAY funds are allocated for this purpose.

Around 62 lakh houses have been constructed from 1985-86 to 1999-2000 under the Scheme with an expenditure of Rs 10,301.21 crore. The Central allocation for the rural housing during 2000-2001 is Rs 1,710 crore out of which allocation under IAY is Rs 1,613.69 crore with a target of about 12.44 lakh houses. Out of this, Rs 1,290.95 crore have been allocated for construction of 8.27 lakh new houses and Rs 322.74 crore for conversion of 4.17 lakh unserviceable *kutcha* houses into *pucca/semi-pucca* houses.

CREDIT-CUM-SUBSIDY SCHEME FOR RURAL HOUSING

The Credit-cum-Subsidy Scheme has been conceived for rural households having annual income up to Rs 32,000. However, preference is given to rural households below the poverty-line. Under the Scheme, subsidy up to Rs 10,000 is given to an eligible household with loan up to Rs 40,000 per household. Sanitary latrine and smokeless *chulha* are integral part of the house. The scheme has been launched with effect from 1 April 1999. Funds under the scheme are shared by the Centre and State on 75:25 basis. During 1999-2000, Rs 100 crore were allocated out of which Rs 60.69 crore were released to various States. During 2000-2001, an allocation of Rs 150 crore has been made for this Scheme.

INNOVATIVE STREAM FOR RURAL HOUSING AND HABITAT DEVELOPMENT

With a view to encouraging the use of cost effective, environment-friendly, scientifically tested and proven indigenous and modern designs, technologies and materials, a scheme called Innovative Stream for Rural Housing and Habitat Development was launched on 1 April 1999. The objective of the scheme is to promote/propagate innovative and proven housing technologies, designs and materials in the rural areas. During 1999-2000, Rs 10 crore were allocated, out of which Rs 2.53 crore were released for executing the projects.

RURAL BUILDING CENTRES

The Rural Building Centre Movement popularly known as the *Nirmithi*

Movement was started in 1985 in Kerala with a view to promoting technology transfer, information dissemination, skill upgradation through training and production of cost-effective and environment-friendly building components. The rural building centres are being involved in transfer of technology from lab to land. A rural building centre can be set up by the State Government, rural development agencies, credible NGOs, private entrepreneurs, professional associations, autonomous institutions and corporate bodies including public sector agencies. For setting up of a rural building centre, Rs 15 lakh are provided as one-time grant. During 1999-2000, Rs six crore were allocated, out of which Rs 1.20 crore were released to various agencies.

SAMAGRA AWAAS YOJANA

Samagra Awaas Yojana is a comprehensive housing scheme launched recently with a view to ensuring integrated provision of shelter, sanitation and drinking water. The basic objective of the *Samagra Awaas Yojana* is to improve the quality of life of the people as well as overall habitat in the rural areas. The scheme specifically aims at providing convergence to various rural development activities such as construction of houses, sanitation facilities and drinking water schemes and ensure their effective implementation by suitable and sustainable induction of technology and innovative ideas. In the first phase, the scheme is to be implemented in one block each of 25 districts in 24 States and one Union Territory. Intended beneficiaries under the scheme are the rural poor, preferably those below the poverty-line. During 1999-2000, Rs 2.67 crore were released to various agencies to implement the programme.

CENTRALLY-SPONSORED RURAL SANITATION PROGRAMME

Rural Sanitation being a State subject, the Rural Sanitation Programme is implemented by the State Governments under State Sector Minimum Needs Programme (MNP). The Central Government supplements the States' efforts by providing financial and technical assistance through the Centrally-sponsored Rural Sanitation Programme (CRSP).

The CRSP was launched in 1986 with the objective of improving the quality of life of the rural people and to provide privacy and dignity to women. The concept of sanitation was expanded in 1993 to include personal hygiene, home sanitation, safe water, garbage and excreta disposal and waste water disposal. The components of the programme include construction of individual sanitary toilets for households below the poverty-line (BPL), conversion of individual sanitary toilets, construction of village sanitary complexes for women, setting up of sanitary marts, intensive campaign for awareness creation and health education, etc.

The programme has been restructured with effect from 1 April 1999. The Restructured Centrally-sponsored Rural Sanitation Programme (RCRSP) moves away from the principle of state-wise allocation of funds primarily based on poverty criteria to a "demand driven" approach in a phased manner. The restructured programme will be community-led and people-centered.

There will be shift from high-subsidy to a low-subsidy regime. The Total Sanitation Campaign (TSC) approach emphasises on the awareness building component and meet the demand through alternate delivery mechanism. School Sanitation has been introduced as a major component and as an entry point encouraging wider acceptance of sanitation among rural masses.

The total number of toilets constructed under the programme (CRSP+MNP) up to 1996-97 were 43,37,609 with a total expenditure of Rs 757.62 crore. Thereafter, with the Central allocation of Rs 259 crore and State MNP provision of Rs 624.71 crore, the total number of toilets constructed under the programme up to March 2000 were 32,12,950.

INTEGRATED WASTELANDS DEVELOPMENT PROGRAMME

The Integrated Wastelands Development Programme (IWDP) has been under implementation since 1989-90. From 1 April 1995, the programme is being implemented on watershed basis under the common guidelines for Watershed Development. The programme also helps in generation of employment in rural areas besides enhancing people's participation in the wasteland development schemes at all stages.

The basic objective of the programme is to take up integrated wastelands development based on village/micro-watershed plans. The stakeholders prepare these plans after taking into consideration land capability, site conditions and local needs. It is proposed to change the funding pattern of this Central Sector Scheme on sharing basis in the ratio of 75:25 to ensure greater involvement of the State Governments.

Up to May 2000, 320 IWDP projects in 25 States with a total outlay of Rs 1,056 crore to treat total project area of 22.96 lakh hectares were at various stages of implementation. Out of these, the projects taken up before 31 March 1995 have more or less been completed. Consequently, projects totalling 11 lakh hectares are under implementation under common guidelines.

INVESTMENT PROMOTIONAL SCHEME

The Investment Promotional Scheme (IPS) was launched in 1994-95 in order to stimulate involvement of corporate sector and financial institutions, etc., for the flow of funds for development of non-forest wastelands. The principle objectives of the scheme include: (i) to facilitate/attract/channelise/mobilise resources from financial institutions, banks, corporate bodies and individuals for development of wastelands in non-forest areas belonging to the Central and State Governments, *Panchayats*, village communities and private farmers; and (ii) to facilitate production and flow of additional bio-mass including farm- forestry products used as raw material for different types of industries and horticulture/commercial plantations.

Under this Scheme, Central promotional grant/subsidy to the general category (individuals/groups) is limited to Rs 25 lakh or 25 per cent of the project cost for the on-farm development activities, whichever is less subject

to the condition that the promoters' contribution in the project shall not be less than 25 per cent of the project cost. The quantum of subsidy in the case of small farmers is 30 per cent and in the case of marginal farmers and SC/ST farmers, it is 50 per cent of the project cost of the on-farm development activities.

In the revised scheme of 1998, the major thrust is on the development of degraded lands belonging to the small and marginal farmers including SCs/STs. Up to 1999-2000, 16 projects have been sanctioned covering an area of 771 ha. of wasteland involving subsidy of Rs 61.15 lakh.

TECHNOLOGY DEVELOPMENT, EXTENSION & TRAINING SCHEME

A Central-sector scheme - Technology Development, Extension and Training Scheme (TDET) - was launched during 1993-94 to develop suitable technologies for the reclamation of wastelands for sustained production of food, fuel-wood, fodder, etc.

The objectives of the scheme include: (a) development of a data base for wastelands, (b) operationalisation of appropriate, cost effective and proven technologies for the development of various categories of wastelands, and (c) dissemination of research findings and appropriate technologies for promoting wastelands development.

The scheme is being implemented through Indian Council of Agricultural Research (ICAR), State Agricultural Universities, DRDAs and Government institutions having adequate institutional framework and organisational back-up. Till the end of March 2000, out of the total sanctioned 84 projects, 20 projects were completed/closed, in other words only 64 projects were in continuation as on 1 April 2000.

Under the scheme, 100 per cent Central grant is admissible to implement projects on wastelands owned by Government, Public Sector Undertakings including Universities, *Panchayats*, etc. In the case of projects on wastelands of private farmers/corporate bodies, the cost of the project requires to be shared on the basis of 60:40 between the Department of Land Resources and the beneficiaries.

DROUGHT PRONE AREAS PROGRAMME

The Drought Prone Areas Programme (DPAP) was started in 1973. The basic objective of the programme is to minimise the adverse effects of drought on the production of crops and livestock and productivity of land, water and human resources. The programme also aims at promoting the overall economic development and improving the socio-economic condition of the resource-poor and disadvantaged sections inhabiting the programme areas. These objectives are being addressed through taking up development works by watershed approach for land development, water resource development and afforestation /pasture development. Presently 947 blocks of 155 districts

in 13 States are covered under the programme. Currently 8,335 watershed projects are at various stages of implementation, covering an area of more than 41 lakh hectares.

DESERT DEVELOPMENT PROGRAMME

The Desert Development Programme (DDP) was started in the year 1977-78, both in the hot desert areas of Rajasthan, Gujarat and Haryana, and the cold desert areas of Jammu & Kashmir and Himachal Pradesh. From 1995-96, the coverage has been extended to few more districts in Andhra Pradesh and Karnataka. The programme aims at restoration of ecological balance by harnessing, conserving and developing natural resources, i.e., land, water and vegetative cover and raising land productivity. Presently 3,844 watershed projects covering 19 lakh hectares are under implementation in 227 blocks of 36 districts in seven States.

LAND REFORMS

The Land Reforms Policy adopted since independence aims at restructuring agrarian relations to achieve an egalitarian social structure, elimination of exploitation in land relations, realising the age-old goal of "land to the actual tiller", enlarging the land base of the rural poor, increasing agricultural production and diversification of the agricultural economy, etc. The major components of the strategy of land reforms have been the abolition of zamindari and intermediary tenures, tenancy reforms, ceiling on ownership of agricultural holdings, consolidation of holdings, distribution of Government wastelands including *Bhoodan* land to the landless rural poor, modernisation and updating of land records system, special measures for prevention of alienation and restoration of alienated tribal lands, empowerment of women to ensure greater access to land and abolishing gender bias.

Since inception till December 1999, the total area of land declared surplus in the country was 73.56 lakh acres, out of which about 64.96 lakh acres have been taken possession of and 52.87 lakh acres have been distributed to 54.72 lakh beneficiaries, of whom 36 per cent belong to Scheduled Castes and 15 per cent belong to Scheduled Tribes. Till date an area of 147.47 lakh acres of Government wastelands have also been distributed among the landless rural poor. Legislative provisions have been made in many States of the country for conferment of ownership rights on tenants or allowing cultivating tenants to acquire ownership rights on payment of compensation. So far 124.22 lakh tenants have got their rights protected over an area of 156.30 lakh acres.

Reports received from various States indicate that 3.75 lakh cases of tribal land alienation have been registered so far covering 8.55 lakh acres of land, of which 1.62 lakh cases have been decided in favour of tribals covering a total area of 4.47 lakh acres.

A Centrally-sponsored scheme on Computerisation of Land Records was started in 1988-89. At present the scheme is being implemented in 528 districts in the country. In many States, the computerised copies of the Records of

Rights (ROR) are being issued to the users and the public at large. So far about 1,600 *tehsils/taluks* have been covered under the scheme.

DRDA ADMINISTRATION

In view of lack of uniformity among the different programmes with reference to administrative costs, a new Centrally-sponsored scheme of District Rural Development Agency (DRDA) Administration was launched with effect from 1 April 1999. The objective is to strengthen the DRDAs and make them more professional in their functioning. The funding pattern of the DRDA Administration is in the ratio of 75:25 between the Centre and the States. During the current year the budget provision for DRDA Administration is Rs 220 crore.

COUNCIL FOR ADVANCEMENT OF PEOPLE'S ACTION AND RURAL TECHNOLOGY

In order to encourage, promote and assist voluntary action in rural development with focus on injecting new technologies inputs for the enhancement of rural prosperity, the Government of India, in September 1986 set up the Council for Advancement of People's Action and Rural Technology (CAPART), by merging two autonomous bodies, namely, People's Action for Development India (PADI) and Council for Advancement of Rural Technology (CART). CAPART is a registered body under the Department of Rural Development.

CAPART has a set up of nine Regional Committees/Regional Centres at Jaipur, Lucknow, Ahmedabad, Bhubaneswar, Patna, Chandigarh, Hyderabad, Guwahati and Dharwad. The Regional Committees are empowered to sanction project proposals to voluntary agencies up to an outlay of Rs 10 lakh in their respective regions. Since its inception and up to December 1999 the CAPART has sanctioned 18,622 projects of Rs 519.74 crore.

TRAINING

The National Institute of Rural Development (NIRD), Hyderabad, an apex training and research institute was set up in 1965 to impart training to the rural development functionaries as well as *Panchayati Raj* institutions through classroom interaction as well as field work. Thereafter, 25 State Institutes of Rural Development (SIRDs) and 87 Extension Training Centres (ETCs) have been set up in the country for intensifying training related activities. The Ministry provides financial assistance to these Institutes.

MONITORING AND EVALUATION

The Ministry lays great emphasis on monitoring and evaluation of all the rural development programmes, in general, and poverty alleviation and employment generation schemes, in particular, being implemented in various States/UTs. The comprehensive system of monitoring and evaluation includes various mechanisms such as Progress Reports, Financial Returns, Audit Reports, intensive inspections by officers of both Central Government and State

Governments, etc. The Ministry has also launched a quick evaluation of selected programmes. The Ministry of Rural Development maintains a website www.rural.nic.in giving the details of its programmes.

Vigilance and Monitoring Committees have been set up at State/District/Block levels in all the States/UTs except in the States of Jammu & Kashmir and Karnataka to monitor the implementation of the programmes.

18 Food and Civil Supplies

THE Department of Food & Public Distribution, recently formed after merger of the Department of Public Distribution and Sugar & Edible Oils, is responsible for the management of food economy of the country. It undertakes various activities such as procurement of foodgrains, building up and maintenance of food stocks, their storage, movement and delivery to the distributing agencies. A close watch is kept on production, stock and price level of foodgrains, and efforts are made to ensure their adequate availability at reasonable prices in different parts of the country.

FOOD PRODUCTION

Production of foodgrains from 1991-92 to 1999-2000 (up to 1 April 2000) is given in table 18.1.

TABLE 18.1 : PRODUCTION OF FOODGRAINS

Crop	(lakh tonnes)								
	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000 ¹
Rice	746.8	728.6	803.0	818.1	769.8	817.3	825.4	860.0	885.5
Coarse Cereals	259.9	365.9	308.2	298.8	290.3	341.1	304.0	314.6	293.6
Pulses	120.2	128.2	133.0	140.4	123.1	142.5	129.7	148.0	135.5

¹ As on 1 April 2000

PROCUREMENT OF FOODGRAINS

Procurement of foodgrains at support prices ensures stability in farm prices. It serves the twin purposes of ensuring a remunerative price to the farmers and of building public stocks of foodgrains. Table 18.2 gives an idea of the quantum of procurement of main food crops, viz., rice and wheat, since 1991-92 marketing season.

TABLE 18.2 : PROCUREMENT OF FOODGRAINS

(lakh tonnes)

Crop	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-2001
Rice ¹	102.54	130.53	142.60	137.05	100.47	129.60	155.58	125.23	146.65 ³	
Wheat ²	77.53	63.80	128.35	118.69	123.27	81.57	92.98	126.52	141.43	101.86 ³

¹ Marketing Season : October-September² Marketing Season : April-March³ Up to 2 May 2000

BUFFER STOCKS

According to the Buffer Stocking Policy of foodgrains, the total minimum stocks in the Central Pool held by the public agencies on different dates in a year should be as under :

(lakh tonnes)

Date	Wheat	Rice	Total
1 April	40	118	158
1 July	143	100	243
1 October	116	65	181
1 January	84	84	168

STOCK POSITION

As on 31 March 2000 closing stock of foodgrains in the Central Pool with FCI and State agencies stood at 280.06 lakh tonnes (provisional) as against 216.64 lakh tonnes (provisional) on the same date last year.

DISTRIBUTION

The off-take of food grains (rice and wheat) from the Central Pool by various States/UTs and others for distribution through fair-price shops and for welfare/employment programmes in 1999-2000 was 219.169 lakh tonnes as against 207.30 lakh tonnes during 1998-99. The total off-take of food grains (wheat and rice) under Targeted Public Distribution System (TPDS) during April 1999 to March 2000 was about 156.75 lakh tonnes comprising 108.195 lakh tonnes of rice and 48.552 lakh tonnes of wheat.

IMPORT AND EXPORT

In 1998-99 a total of 14.15 lakh mts of wheat was imported on Government account. There has been no import of foodgrains (wheat and rice) during 1999-

2000. There has been no commercial export of wheat on Government account during 1998-99. During 1999-2000, 4,939 mts of wheat has been lifted by the authorised nominee of the Government of Nepal against 50,000 mts allocated to Nepal. There has been no commercial export of rice from the Central Pool during this period.

MID-DAY MEALS SCHEME

The Mid-day Meals Scheme was launched by the Ministry of Human Resource Development (Department of Education) during 1995-96 from 15 August 1995 for the benefit of students in primary schools in EAS/earlier RPDS blocks (2,368). Foodgrains (rice and wheat) are supplied by FCI free of cost to the States/UTs. However, FCI charges the economic cost of the foodgrains supplied under the scheme from the Ministry of Human Resource Development (Department of Education). The scheme was extended to all other low female literacy (LFL) blocks (2,005) during 1996-97 and to all primary schools and 3,000 *Nagar Palikas* during 1997-98. During 1999-2000, 9.86 lakh mts of wheat and 17.80 lakh mts of rice has been allotted to the States/UTs of which 4.14 lakh mts of wheat and 9.91 lakh mts of rice has been lifted.

OPEN SALE OF WHEAT AND RICE

The Government of India undertakes open sale of wheat and rice through the Food Corporation of India as and when necessary. It was decided in November 1998 to release up to 40 lakh mts of wheat to State Governments/UTs for open sale. From December 1998 to March 1999, various State Governments/UTs lifted 6.95 lakh mts of wheat. On 15 April 1999, FCI was authorised to release up to 10 lakh mts of wheat directly to Roller Flour Mills/*Atta Chakkies* and bread manufacturers under this scheme as the off-take of wheat under the scheme was very low.

Due to record procurement of wheat during *rabi* 1999 season, the stocks of wheat in the Central Pool became far above buffer norms. To make space available for the ensuing *Kharif* crop and reduce the carrying cost for foodgrains, the Open Market Sale Scheme (Domestic) (OMSS (D)) of wheat had been liberalised from 9 August 1999 and it was stipulated that any consumer could directly approach any District Manager of FCI anywhere in the country and buy the required quantity of wheat subject to a minimum of 10 mts. The scheme was further liberalised with effect from 3 December 1999 and the rates per quintal were revised/refixed as : East Zone Rs 699, West Zone Rs 690, North Zone Rs 688 and South Zone Rs 705.

From December 1998 to April 1999, 49.56 mts of wheat has been released under the ongoing OMSS(D) of wheat. Following revision in Central Issue Price (CIP) of wheat for above poverty-line families to Rs 900 per quintal, the revision in FCI issue price of OMSS(D) wheat at the Rs 900 per quintal has also been made effective from 1 April 2000 throughout the country. To liquidate the excess stocks of wheat, various ways and means are also being

explored. Keeping in view the overall position of rice in the Central Pool, open sale of rice is, however, not being undertaken for the time being.

INTERNATIONAL COOPERATION

India is a member of the following international organisations : (i) International Grains Council (formerly International Wheat Council); (ii) Food and Agriculture Organisation of the United Nations including its Committee on World Food Security; and (iii) International Sugar Organisation. India is also a member of the SAARC Food Security Reserve Board. Out of the minimum reserve of foodgrains of two lakh metric tonnes to be maintained by the SAARC countries, India's share is 1.53 lakh metric tonnes.

STORAGE

The storage capacity of three public sector agencies, viz., Food Corporation of India (FCI), Central Warehousing Corporation (CWC) and 16 State Warehousing Corporations (SWCs) engaged in building large-scale storage/warehouses as on 1 March 2000 is as under:

(in lakh tonnes)

STORAGE CAPACITY					
AGENCY	COVERED		CAPACITY		TOTAL
	OWNED	HIRED	OWNED	HIRED	
FCT ¹	125.69	78.53	20.98	25.85	251.15
CWC	54.24	12.26	6.00	1.87	74.37
SWCs	81.72	41.49	-	-	123.21

¹ The capacity includes 41.84 lakh mt capacity hired from the CWC and SWCs.

The CWC started its operations in 1957 with a capacity of 7,000 tonnes in hired godowns. It has steadily increased its warehousing capacity and is operating 446 centres with a total capacity of 74.37 lakh mt as on 1 March 2000. The CWC is also operating 113 custom-bonded warehouses with a total capacity of 8.67 lakh tonnes as on 31 December 1999. The Corporation has been making profits and paying dividends consistently.

The Central Warehousing Corporation has associates in State Warehousing Corporations in 16 States. The total investment of the CWC which is a 50 per cent shareholder in the equity capital of State Warehousing Corporation was Rs 51.70 crore as on 31 October 1999.

POST HARVEST MANAGEMENT OF FOODGRAINS

SAVE GRAIN CAMPAIGN

Save Grain Campaign (SGC), launched as a pilot project in 1965-66, has become a regular scheme since 1969-70. The main functions of SGC are :

- To educate and motivate the farmers through training demonstration,

publicity, etc., to adopt recommended measures at farm level to minimise the foodgrains losses; (ii) To organise stipendiary/non-stipendiary training courses for farmers on scientific methods of preservation of foodgrains; (iii) To popularise improved storage structures like metal bins, *pucca kothis*, RCC ring bins, etc., and (iv) To develop nucleus villages having modern scientific storage structures as well as traditional storage structures improved by SGC. Assistance for purchase of metal bins and other inputs at the rate of Rs 10,000 per village is provided.

During 1999-2000, 19,440 farmers were trained; 389 stipendiary training programmes were conducted; 12,302 metal-bins distributed; 20,257 non-metallic storage structures improved/constructed and 411 nucleus villages developed.

QUALITY STANDARDS FOR FOODGRAINS

The Government exercises due control over the quality of foodgrains procured for the Central Pool. The Quality Control Cell of the Ministry at New Delhi, Calcutta and Hyderabad monitor the quality of foodgrains being procured by FCI and State agencies for Central Pool as well as at the time of storage and distribution.

INDIAN GRAIN STORAGE MANAGEMENT AND RESEARCH INSTITUTE

Indian Grain Storage Management and Research Institute (IGSMRI), Hapur, is engaged in the training and R&D work relating to grain storage management. The Institute has five field stations at Hyderabad, Jorhat, Ludhiana, Jabalpur and Udaipur. The IGSMRI also conducts various training courses on storage, inspection of foodgrains, pest control, etc., for the officers of storage agencies, pest control operators, etc.

SUGAR INDUSTRY

Sugar industry is the second largest agro-based industry in the country. As on 30 June 2000 there were 493 installed sugar factories in the country as against 138 during 1950-51. The production, consumption and export of sugar from 1994-95 to 1998-99 is as under :

(lakh tonnes)

Sugar Season (October-September)	Production	Internal Consumption	Export	Import
1994-95	146.43	119.74 ¹	0.41	6.74
1995-96	164.29	131.72 ²	8.87	0.42
1996-97	129.05	136.75	5.36	—
1997-98	128.44	139.78 ¹	0.97	—
1998-99 ³	155.20	141.45	0.22	—

¹ Includes 8.77 L.T. of imported sugar.

² Includes 1.99 L.T. of imported sugar

³ Provisional

FOOD-PROCESSING

The Ministry of Food Processing Industries was set up in July 1988 to give an impetus to the development of food-processing industries in the country. Subsequently this Ministry was made a Department and brought under the Ministry of Agriculture. In the era of economic liberalisation, the Department acts as a catalyst for bringing in greater investment in this sector, encouraging exports and creating a conducive environment for healthy growth of the food-processing industry.

FOODGRAIN MILLING INDUSTRY

The number of modern/modernised rice mills has gone up from practically nil in 1970 to 35,088 as on 1 January 2000. As a result of improved availability of bran from these modernised mills the processing of bran is estimated to be around 34 lakh tonnes in 1999-2000 as against 33 lakh tonnes in 1998-99.

Thirteen regional extension service centres have been set up in various States with agricultural universities/research institutions for publicising the benefits of modernisation of rice milling industry and by-product utilisation. Four Rice Mills and Allied Equipment Testing Centres at Coimbatore, Kharagpur, Kanpur, and Pune, are providing assistance to machinery manufacturers and millers for testing of equipment, as well as for selection, operation and maintenance of machinery. Post-harvest Technology Centre at Indian Institute of Technology (IIT), Kharagpur, offers training for long term and short term courses.

There being no control on price and distribution of wheat products, no licence is required for manufacture of wheat products. As such mills have been given a freehand to obtain their requirements of wheat from any source, thereby avoiding their dependence on Government. Nearly 10.5 million tonnes of wheat is converted into various wheat products by about 820 roller flour mills in the country every year against installed capacity of 19.5 million tonnes.

CONSUMER FOOD INDUSTRIES

The consumer food industry mainly consists of ready-to-eat products or ready-to-cook products such as pasta products, cocoa-based products, bakery products, biscuits, soft drinks, etc. Bakery industry in India is probably the largest of the processed food industries. The two major bakery industries, viz., bread and biscuits, account for about 82 per cent of the total bakery products. The annual production of bakery products which includes bread, biscuits, pastries, cakes, buns, rusk, etc., most of which are in the unorganised sector, is estimated to be in excess of 30 lakh tonnes. The production of bread and biscuits in the country both in the organised and unorganised sectors is estimated to be around 15 lakh tonnes and 11 lakh tonnes respectively. Of the total production of bread and biscuits, about 35 per cent is produced in the organised sector. Another wheat-based product known by its genetic name,

i.e., pasta, products comprising noodles, vermicelli, macaroni and spaghetti, is gaining popularity.

There are 20 units engaged in the manufacture of cocoa products like chocolates, drinking chocolates, cocoa butter, cocoa butter substitutes, cocoa-based malted milk foods with a production of approximately 34,000 tonnes.

The production of soft drinks has increased from 5,670 million bottles in 1998-99 to 6,230 million bottles during 1999-2000. At present, there are 36 units manufacturing beer under licence from Government of India having an estimated output of four lakh kl per annum.

FRUIT AND VEGETABLE PROCESSING INDUSTRIES

The estimated installed capacity of fruits and vegetables processing industries has increased from 20.8 lakh tonnes in 1998-99 to 21 lakh tonnes in 1999-2000. However, the production of processed fruits and vegetables in the country has increased from 9.4 lakh tonnes in 1998-99 to 9.8 lakh tonnes in 1999-2000.

The Department of Food Processing Industries administers the Fruit Products Order (FPO) 1955. The order aims at regulating sanitary and hygienic conditions in the manufacture of fruit products. To ensure good quality products, manufactured under hygienic conditions, FPO order lays down the minimum requirements for : (i) sanitary and hygienic conditions of premises, surroundings and personnel; (ii) water to be used for processing; (iii) machinery and equipment; and (iv) product standards.

The total number of licensed units under FPO has increased to 5,198 from 5,112.

DAIRY PRODUCTS

Milk production in 1999-2000 is anticipated to be 78 million tonnes as against 74.5 million tonnes during 1998-99. There has been an increase in the estimated production of milk powder including infant milk food from 2,22,000 tonnes in 1998-99 to 2,25,000 tonnes in 1999-2000 and the estimated production of malted food products has increased from 65,000 tonnes in 1998-99 to 66,000 tonnes in 1999-2000. The production of cheese in the organised sector in the year 1999-2000 has been estimated as 5,000 tonnes. The estimated production of condensed milk has increased from 9,000 tonnes in the year 1998-99 to 11,000 tonnes in 1999-2000.

MEAT AND POULTRY PROCESSING

The production of meat and meat products has shown an impressive growth. The details of production of meat and meat products from 1994 to 1998 is as under :

(thousand tonnes)

	1994	1995	1996	1997	1998
Mutton & goat meat	637	647	669	670	675
Pork	365	420	420	420	420
Chicken (Poultry Meat)	442	578	480	580	600
Cattle (Beef)	1,290	1,292	1,292	1,292	1,295
Buffalo (Meat)	1,200	1,204	1,204	1,205	1,210

The total meat production in the country is to the tune of 4.5 million tonnes per annum. The slaughtered rate in relation to the population of animals is about six per cent in the case of cattle, 10 per cent in the case of buffaloes, 99 per cent in the case of pigs, 31 per cent in the case of sheep and 39 per cent in the case of goats.

FISH PROCESSING

Fifty five (55) per cent of the production of fish in India is from marine sources with coastal fishing constituting the bulk and only two per cent comes from deep-sea resources. Production of fish from both marine and inland sources has decreased from 5.39 million tonnes in 1997-98 to 5.26 million tonnes in 1998-99.

Processing of marine products into canned and frozen forms is carried out almost entirely for the export market. In all, there are 393 freezing units, 13 canning units, 160 ice-plants, 12 fish meal units and about 476 cold storage units in the marine product industries.

EXPORTS

Exports of processed fruits and vegetables in 1999-2000 is estimated to be around Rs 690 crore as against Rs 678 crore in 1998-99. Export of animal products is estimated to be around Rs 845 crore in 1999-2000 as against Rs 859 crore. Export of processed foods (including cereal based products) is estimated to be around Rs 8,855 crore in 1999-2000 as against Rs 8,904 crore in 1998-99 and export of marine products is expected to increase from Rs 4,627 crore to Rs 5,180 crore during the same period.

CONSUMER AFFAIRS

PRICE MANAGEMENT

During the year 1999-2000, the overall situations of the prices and availability of essential commodities remained at normal levels, except marginal increases in the case of some items like gram, urad, sugar and kerosene. The annual rate of inflation in terms of Wholesale Prices Index (WPI) numbers was recorded at a modest 5.5 per cent as compared to 5.3 per cent, the corresponding period in 1998-99.

The Government had taken several steps to keep the prices of essential commodities within reasonable levels and also to facilitate their easy availability in the open market. The Cabinet Committee on Prices (CCP) under the Chairmanship of the Prime Minister and the High Powered Price Monitoring Board (HPPMB) under the Chairmanship of Cabinet Secretary continued to monitor the prices and availability of essential commodities. The Department of Consumer Affairs monitored the prices of 12 essential commodities namely rice, wheat, gram, arhar, sugar, groundnut oil, mustard oil, *vanaspati*, salt, tea, potato and onion on a daily and weekly basis collected from selected centres all over the country. Import of commodities which were in short supply such as edible oils, pulses, etc., were allowed under OGL at zero or reduced import duties. Strict actions were taken against hoarders, black marketeers and others indulging in unfair trade practices under the Essential Commodities Act and other similar legislative measures.

COMMODITYWISE PRICE TRENDS

CEREALS

An important feature of the trend in the WPI during 1999-2000 had been the lower increase in the prices of subgroups namely primary articles (4.2 per cent) and manufactured products (2.4 per cent) as against a higher increase in the case of fuel, power, light and lubricants (19.8 per cent) which have administered prices. During this period, the WPI of cereals, as a sub-group, increased at a reasonable rate of 4.7 per cent. Among the individual items, rice had risen only by 3.5 per cent and wheat 5.3 per cent. Other cereal items increased in the range of 4.4 per cent (*jowar*) to 27.8 per cent (*barley*). The production of cereals during the year 1998-99 was also at record level of 188.24 million tonnes. The advance estimates of production of cereals for 1999-2000 is around 193 million tonnes.

PULSES

The WPI of sub-group of pulses during the year 1999-2000 witnessed a higher increase of 8.9 per cent as against a marginal hike of 0.1 per cent in the corresponding period 1998-99. The increase in the current year was mainly due to sharp rise in the WPI of gram and *urad* with a percentage increase of 13.8 per cent and 23.3 per cent respectively. However, the WPI of *arhar* declined by 2.4 per cent during this period as against the increase of 11.8 per cent in the previous year. The persistent increase in the prices of pulses was primarily due to near stagnation in production which hovered in the range of 14 million tonnes coupled with a continuous rise in demand. The import of pulses was allowed under OGL and import duty was abolished. In order to augment the availability of pulses in the country, Government had also imported one lakh tonnes of pulses on Government account through NAFED. Though a target of 15.50 million tonnes has been fixed for 1999-2000, the likely production is estimated to be around 13.06 million tonnes.

EDIBLE OILS

There had been a sharp decline in the prices of edible oils during 1999-2000. During this period, the WPI of edible oils, as a sub-group, exhibited a decline of 17.7 per cent as against an increase of 12.7 per cent in the previous year. The price indices of major edible oils contributed to this decline included *vanaspati* (-22.4 per cent), mustard oil (-21.9 per cent), groundnut oil (-2.1 per cent) and coconut oil (-14.7 per cent). This decline was mainly attributed to increase in production of oil seeds in the country, decline in the prices in international markets of imported edible oils and other effective steps taken by the Government to control the prices.

SUGAR

The prices of sugar remained at reasonable levels in 1999-2000. The WPI of sugar during this period had increased at a moderate rate of 3.4 per cent as against a marginal rise of 0.8 per cent in the previous year. The overall level of prices and availability position of sugar in the country was comfortable. In order to increase the production of sugar, incentives such as enhanced minimum support prices of sugarcane, permission for early crushing, increase in the rate of free sale, etc., have been provided.

VEGETABLES

During the year 1999-2000, the overall availability and prices of vegetables including potato and onion in the country was generally satisfactory. No perceptible increase was noticed in the prices of any vegetables during this period. Though the WPI of sub-group of vegetables has increased by 26.2 per cent due to lean season for some vegetable items, the price indices of major vegetables like potato and onion declined by 8.1 per cent and 35 per cent respectively. The production of onion which suffered a severe set back during 1997-98 at 36.2 lakh tonnes had increased to 54.7 lakh tonnes in 1998-99. In order to avoid declining trend in the availability, the Government had imposed quantitative restrictions on the export of onion and permitted its export in a phased manner to protect the interests of both onion growers and consumers.

The prices and availability of most of the essential commodities during 1999-2000 remained at a satisfactory level. Better production and liberal imports of items like pulses, edible oils, etc., have had a favourable impact on their prices. The Joint Monitoring Committee (JMC) continued to monitor and took the desired steps for keeping the supply of essential commodities at reasonable levels. The price monitoring machinery at the Central as well as the State level is fully geared to tackle any situation of shortage or sudden spurt in prices.

PUBLIC DISTRIBUTION SYSTEM

The Indian Public Distribution System (PDS) is probably the largest distribution network of its type in the world. The system is designed to help both the producers and consumers of foodgrains by linking procurement to support

price and ensuring their distribution along with other essential commodities at affordable prices throughout the country. PDS continues to be a major instrument of Government's economic policy for ensuring food security for the poor.

Under the PDS the Central government has assumed responsibility for procurement and supply of essential commodities, viz., wheat, rice, levy sugar, imported edible oils and kerosene, to the State governments and the Union Territories for distribution at affordable prices to the public. These commodities are made available to the States/UTs at fixed Central Issue Prices (CIP) which are determined by the Central government and which generally involve subsidies borne by the Central government. The Central Issue Prices of foodgrains are fixed by the Ministry of Consumer Affairs, Food and Public Distribution after taking into account the Minimum Support Price of foodgrains, statutory charges/taxes payable on the Minimum Support Prices and interest charged at the prescribed rate of interest. In the case of other items like sugar, kerosene and imported edible oils, the cost of procurement/production, margins to dealers, transportation incidentals, etc., are included while working out the Central Issue Prices. Some States/UTs also distribute additional items of mass consumption through the PDS outlets.

The network of fair-price shops has been expanding over the years. Up to March 2000, 1,959 lakh ration cards have been issued by States/UTs to cover the entire population of the country through 4.59 lakh ration shops.

The quantities of foodgrains supplied by Central government to States/UTs from the Central Pool for distribution to consumers through PDS outlets and other welfare schemes have increased tremendously over the past 50 years. In 1951, 47.7 lakh mt of foodgrains was supplied to States/UTs from the Central Pool. During 1991, the quantum of foodgrains supplied from the Central Pool rose to 208.10 lakh mt, including PDS and other schemes. During 1999-2000 a total quantity of 242.08 lakh mt of foodgrains (rice and wheat) was supplied from the Central Pool to the States/UTs for PDS and all other welfare schemes including defence forces/paramilitary forces, etc. Thus, supply of foodgrains from the Central Pool has served the interests of the vulnerable sections of society and thereby, has become an important plank in the food management.

Allocation of levy sugar is generally made on a uniform norm of 425 gms per capita per month for the projected population as on 1 January 1996. Some States/UTs get a higher level of levy sugar, i.e., more than 425 gms per capita keeping in view the special circumstances prevailing there.

Edible oils were not much imported during 1991 due to foreign exchange constraints and thereby the allocation was considerably reduced. In 1997 and 1998, against an allocation of 1.44 lakh tonnes and 1.62 lakh tonnes, the lifting was 0.27 lakh tonnes and 1.51 lakh tonnes respectively.

TARGETED PUBLIC DISTRIBUTION SYSTEM

The Government has streamlined the PDS by issuing special cards to the

families below the poverty-line (BPL) and selling essential articles under PDS to them at specially subsidised prices. The thrust is to include only the really poor and vulnerable sections of the society such as landless agricultural labourers, marginal farmers, rural artisans/craftsmen such as potters, tappers, weavers, blacksmiths, carpenters, etc., in the rural areas, and slum dwellers and persons earning their livelihood on a daily basis in the informal sector, like porters, rickshawpullers and hand-cart pullers, fruit and flower-sellers on the pavements, etc., in urban areas.

Under Targeted Public Distribution System (TPDS), each poor family is entitled to 10 kg of foodgrains per month at specially subsidised prices. This is likely to benefit about six crore poor families for whom a quantity of about 72 LMT of foodgrains per year is earmarked. The allocation to the States is based on the average consumption, i.e., average annual off-take under PDS during the last ten years. The quantity of foodgrains out of this average lifting which is in excess of the requirements of the population below the poverty-line is allocated to the States as a transitory allocation at subsidised Central Issue Prices for APL families which are higher than the prices fixed for issue of BPL quota of foodgrains. About 103 LMT of foodgrains per annum is earmarked for the transitory allocation.

Launched in June 1997, TPDS is now in operation in all States/UTs except in Delhi and Lakshadweep. In order to ensure that the essential commodities reach the farthest corners in hilly and inaccessible areas, the Government provided financial assistance of Rs 1.06 crore to States/UTs for purchase of nine vans and Rs 22.29 crore for construction of 92,500 tonnes of storage capacity during 1999-2000.

EDIBLE OILS ECONOMY

Oils and fats are considered essential food items for a wholesome diet. The Ministry of Consumer Affairs, Food and Public Distribution is responsible for integrated supply, price and distribution of *vanaspati*, vegetable oils and fats. Production of oilseeds, the main source of edible oils in the country, has appreciably increased from 186 lakh tonnes in 1990-91 to 256.8 lakh tonnes (provisional) in 1998-99. Potential of the secondary sources of edible oils like cotton seed, copra, rice bran and oil bearing materials from tree and forest origin have also been exploited moderately and these sources are now contributing to the level of 25 per cent of the domestic vegetable oil production. Since there has been a continuous gap between the demand and supply for a number of years, the country has been resorting to import of edible oils to bridge the gap. The import policy on edible oil has further been liberalised with effect from 1 April 1999 allowing import of all edible oils except coconut oil. With liberalisation of import, edible oils are now being imported in substantial quantities. During 1998-99, 23.8 lakh tonnes of edible oil was imported which increased to 29.56 lakh tonnes during 1999-2000 (up to October 1999). Distribution of imported edible oil through the network of PDS continued during 1998-99 and a total quantity of 1.90 lakh tonnes of

palmolein was allocated to the States/UTs during this period. Of this the States/UTs lifted 1.51 lakh tonnes.

HINDUSTAN VEGETABLE OILS CORPORATION LIMITED

The Hindustan Vegetable Oils Corporation Limited (HVOC), a public sector undertaking, was incorporated in March 1984 with the merger of two nationalised companies, viz., M/s Ganesh Flour Mills and Amritsar Oil Works. The Corporation is engaged in the manufacture and supply of *vanaspati*, refining/packing of imported edible oils for supply under the Public Distribution System, besides manufacture of various types of nutritious breakfast food, ready-to-eat snacks and protein-rich soya products. It has eight manufacturing and packing units spread all over the country. The authorised capital is Rs 10 crore while the paid-up capital stands at Rs 7.71 crore.

VANASPATI

The vegetable oil industry is administered through the following control/regulation orders: (i) Vegetable Oil Products (Regulation) Order, 1998; (ii) Edible Oils Packaging (Regulation) Order, 1998; (iii) Solvent Extracted Oils, De-Oiled Meals and Edible Flour Control Order, 1967; and (iv) Pulses, Edible Oilseeds and Edible Oils (Storage Control) Order, 1997. There are 201 *vanaspati* units in the country with an annual installed capacity of 31.5 lakh tonnes.

EXPPELLER OILS

Expeller oils are obtained from oil-bearing materials by crushing of oilseeds. Crushing of major oilseeds, namely, groundnut, mustard and sesame is reserved for small scale sector, oil growers' cooperatives and State agro-industries. In terms of the liberalised industrial policy of the Government, no licence is required for activity relating to processing of vegetable oils, provided the proposed unit does not come under the locational policy angle. Blending of any two edible oils has been permitted which would lead to a more integrated and competitive domestic edible oils market.

The Government has promulgated Edible Oils Packaging (Regulation) Order, 1998, under Section 3 of the Essential Commodities Act, 1955 (10 of 1955) with the objective of making available safe and quality edible oils in packed form for human consumption. The availability of all edible oils from indigenous sources in 1998-99 was around 72.6 lakh tonnes.

CONSUMER COOPERATIVES

The Consumer Cooperatives are playing an important role in providing essential and other commodities to the consumers at reasonable prices. The Consumer Cooperatives have continued to help in strengthening the distributive network of essential commodities and stabilising the price-line to the extent possible for protecting the interests of the consumers against artificial scarcity, over-charging of prices, supply of sub-standard goods and

the unfair trade practices resorted to by the private traders. The democratically elected managements of consumer cooperatives also help them to gain better acceptance with the consumers. Out of 4,61,079 fair price shops functioning in the country up to September 2000, 96,540 shops were in the cooperative sector (roughly about 20.94 per cent). Out of these, the number of shops being run by the cooperatives in the rural and urban areas were 76,709 (79.45 per cent) and 19,831 (20.54 per cent) respectively.

THE CONSUMER PROTECTION ACT, 1986

The Consumer Protection Act, 1986 (68 of 1986) is one of the most progressive and comprehensive pieces of legislation enacted for the better protection of consumers providing redressal mechanism in the Act itself. It was enacted after an in-depth study of the consumer protection laws in a number of countries and in consultation with the representatives of consumers, trade and industry and after extensive discussions within the Government. All the provisions of the Act came into force with effect from 1 July 1987. The Act was amended in 1991 and 1993 to extend its coverage and scope and to enhance the powers of the redressal machinery.

The salient features of the Act are : (i) It applies to all goods and services unless specifically exempted by the Central government; (ii) It covers all the sectors whether private, public or cooperative. The provisions of the Act are compensatory in nature; (iii) It enshrines the following rights of consumers: (a) right to be protected against the marketing of goods and services which are hazardous to life and property; (b) right to be informed about the quality, quantity, potency, purity, standard and price of goods or services so as to protect the consumers against unfair trade practices; (c) right to be assured, wherever possible, access to a variety of goods and services at competitive prices; (d) right to be heard and to be assured that consumers' interests will receive due consideration at appropriate fora; (e) right to seek redressal against unfair trade practices or unscrupulous exploitation of consumers, and (f) right to consumer education; (iv) The Act also envisages establishment of Consumer Protection Councils at the Central and State levels, whose main objectives are to promote and protect the rights of the consumers; (v) To provide a simple, speedy and inexpensive redressal of consumer grievances, the Act envisages a three-tier quasi-judicial machinery at the national, state and district levels. These are : National Consumer Disputes Redressal Commission known as National Commission, State Consumer Disputes Redressal Commissions known as State Commissions and District Consumer Disputes Redressal Fora known as District Forum; and (vi) The provisions of this Act are in addition to and not in derogation of the provisions of any other law for the time being in force.

At present there are 32 State Commissions, one in each State/UT and 555 district fora besides the National Commission. The State governments have to set up the district fora and the State Commissions whereas the Central government has to set up the National Commission. With the awareness

created by the Government, consumer associations and the media, the inflow of cases in these courts is increasing day by day.

The Ministry of Consumer Affairs, Food and Public Distribution is monitoring the disposal of cases by the consumer courts. Since its inception and up to 31 July 2000, 19,609 cases have been filed and 10,610 cases disposed of in the National Commission. Similarly 2,09,087 cases have been filed and 1,21,431 cases disposed of in the State Commissions and 13,28,202 cases filed and 10,82,867 cases disposed of in the District fora. The Government has also launched a scheme of a one-time grant to the States/UTs for strengthening the infrastructure of the consumer courts. Each State Commission is to be given Rs 50 lakh and each district fora Rs 10 lakh under the scheme in four equal instalments. Reduction of pendency of cases was set as criteria for the release of the second and subsequent instalments. So far, Rs 29.98 crore during 1995-96, Rs 24.64 crore during 1996-97 and Rs 3.50 crore during 1997-98 and Rs 3.68 crore during 1998-99 totalling to Rs 61.80 crore have been released.

CONSUMER WELFARE FUND

A Consumer Welfare Fund (CWF) was created in 1992 with the objective of providing financial assistance to promote and protect the welfare of consumers, develop consumer awareness and strengthen the consumer movement in the country, particularly in rural areas, with special emphasis on women's participation. The Fund set up by the Department of Revenue under the Central Excise and Salt Act, 1944, is being operated by the Ministry of Consumer Affairs, Food and Public Distribution. The Central Excise and Salt Act, 1944 was amended in 1991 to enable the Central government to create the CWF where the money which is not refundable to the manufacturers, etc., shall be credited.

Under the Consumer Welfare Fund Rules (CWFR), any agency/organisation which is engaged in the consumer welfare activities for a period of three years and is registered under any law for the time being in force, village/mandal/samiti-level cooperatives of consumers, industries, State governments, etc., is eligible for seeking financial assistance from the Fund. The financial assistance is given mainly for creating consumer awareness, consumer education, preparation of publicity materials, setting up of facilities for training, research, community-based rural awareness projects, setting up of consumer products testing laboratories, etc. The total quantum of assistance on an individual application is limited to Rs five lakh and 10 per cent contribution is required to be met by the applicant. However, under exceptional circumstances, 100 per cent assistance can be considered. At the end of April 2000, the Standing Committee of CWFR has approved 424 proposals involving an assistance of Rs 3.64 crore.

NATIONAL AWARDS

To encourage the participation of consumer organisations and youth in the field of consumer protection, the Ministry has instituted two national awards,

namely, National Award on Consumer Protection for consumer organisations and National Youth Award on Consumer Protection, which are given every year. In 1993-94, the Ministry also extended the award scheme for women who have made outstanding contributions in the field of consumer protection. The national awards for all the three categories have been presented up to 1997.

BUREAU OF INDIAN STANDARDS

The Bureau of Indian Standards (BIS) is the national standards body of India. The main functions of BIS include preparation and implementation of standards, operation of certification scheme both for products and quality system, organisation and management of testing laboratories, consumer awareness and maintaining close liaison with international standards bodies. With its headquarters at Delhi, BIS has five regional offices at Calcutta, Chandigarh, Mumbai, Delhi and Chennai. It has 17 branch offices in the country. BIS is developing need-based standards with the help of over 26,000 technical experts as members of the technical committees. The standardisation projects are properly screened within BIS to ensure their usefulness. During 1999-2000, 361 standards were formulated. Presently, 17,410 Indian Standards are in force covering important segments of the economy which serve the industry in upgrading the quality of their goods and services. BIS has harmonised/aligned over 3,600 Indian Standards with International Standards and Standards of European Union to facilitate India's export to the global and the European markets.

The BIS Product Certification Marks Scheme provides the consumer an assurance of quality conforming to National Standards. The total number of operative licences have risen to 14,190 as on 31 March 2000, covering 1,010 different items ranging from food products to electronics. The scheme is basically voluntary in nature. However, keeping in view the safety and mass consumption of certain products, it has been made mandatory for 131 items like LPG cylinders, steel products, cement, food colours, etc., besides 246 pesticides.

The BIS Quality System Certification Scheme based on International Standards of Quality Management (ISO 9000 standards) has around 600 operative licences as on 31 March 2000. The Scheme has received accreditation from the Raad voor Accreditatie (RvA) of Netherlands, an international accreditation body of repute in 19 technology sectors.

In view of the growing consensus for greener environment, BIS has adopted the ISO standards pertaining to Environment Management System (ISO 14000 series) and launched EMS Certification Scheme and granted about 20 licences as on 31 March 2000. Also for safer food items ISO 9000—HACCP (Hazard Analysis Critical Control Points) certification was launched in February 1998 and the Bureau had granted four licences during 1999-2000.

The BIS has a network of eight laboratories in the country for independent

testing of certified products which test approximately 30,000 samples a year.

BIS has been functioning as the Central Enquiry Point under World Trade Organisation (WTO) for providing worldwide information on standards, certification systems and technical regulations to the Indian industry and trade. As technical assistance to developing countries, BIS organised its 32nd International Training Programme during October-December 1999. So far 663 participants from 70 countries have received training under this programme. To protect the consumers from spuriously marked products, BIS has an enforcement mechanism. During 1999-2000, 16 search and seizure operations were conducted to curb misuse of standard marks.

The Rajiv Gandhi National Quality Award was instituted in 1991 to inculcate the spirit of competitiveness among the manufacturers. The awards for the year 1998 were presented on 6 January 2000. BIS conducted 57 programmes during 1999-2000 on environment management system, quality system, auditing, documentation, enhancing management representative skills, statistical quality control techniques, etc.

BIS has been nominated as the sole agency for Hallmarking of gold jewellery in India by the Government as per Indian Standards under the BIS Act, 1986.

BIS has launched new certification schemes for imported products. The schemes are aimed at facilitating certification of foreign/imported products and ensure that the levels of quality prescribed in national standards are adhered to in import of goods.

STANDARDS OF WEIGHTS AND MEASURES

One of the important reforms undertaken in the country after Independence was the standardisation of the system in weights and measures. Uniform standards of weights and measures, based on the metric system, were established in the country under the Standards of Weights and Measures Act, 1956. The Directorate of Weights and Measures in the Ministry of Consumer Affairs, Food and Public Distribution is the nodal agency for all activities relating to the subject.

In order to establish the international system of units and to align our laws with international practices as well as to remove certain deficiencies, a comprehensive legislation, namely, the Standards of Weights and Measures Act, 1976, was enacted, replacing the 1956 Act. The new Act *inter alia* has provisions for regulation of pre-packed commodities so as to establish fair trading practices. Provisions of the Act relating to packaged commodities and relevant rules, namely, the Standards of Weights and Measures (Packaged Commodities) Rules, 1977, are in force since September 1977. According to these provisions every package intended for retail sale is required to carry information as regards the name of the commodity, name and address of manufacturers or packer, net quantity, month and year of manufacture/packing and retail sale price. Mandatory declaration of retail sale price is

inclusive of all taxes. The Rules also have similar provision for regulation of packaged commodities imported into India. A Standing Committee for Packaged Commodity Rules has been constituted to examine various amendment proposals received from time to time in the Ministry and to make suitable recommendations. The concerned Ministries, consumer organisations, standard institutions and other related organisations are consulted before the amendments to the Rules are finalised.

Under the provisions of the 1976 Act, the models of all weighing and measuring instruments should be approved by the Central Government before commencement of their production. Under the relevant rules, namely, the Standards of Weights and Measures (Approval of Models) Rules, 1987, recognised laboratories examine the models for their conformity to the standards. These Rules are in force since 1987. The other Rules framed under the Act of 1976 are : (i) The Indian Institute of Legal Metrology Rules, 1980; (ii) The Standards of Weights and Measures (Inter-State Verification and Stamping) Rules, 1987; (iii) The Standards of Weights and Measures (Numeration) Rules, 1987; (iv) The Standards of Weights and Measures (General) Rules, 1987 and (v) The Standards of Weights and Measures (National Standards) Rules, 1988.

The Forty-second Amendment of the Constitution brought the subject of 'Enforcement of weights and measures' from the 'State List' to the 'Concurrent List'. To ensure uniformity in the matter of enforcement in the country, a Central Act, namely, the Standards of Weights and Measures (Enforcement) Act, 1985, was brought into force. It contains provisions for effective legal control on weights, measures and weighing/measuring instruments used in commercial transactions, industrial production and in protection involving public health and safety.

India is a member of the International Organisation of Legal Metrology. This organisation was set up in order to realise world-wide uniformity in laws relating to legal metrology (weights and measures) and to make international trade smooth and practical. Legal standards of the States and Union Territories are calibrated in three Regional Reference Standard Laboratories located at Ahmedabad, Bhubaneswar and Bangalore. These laboratories also provide calibration service to the industries in their respective regions. They are among the recognised laboratories for conducting the model approval tests on weighing and measuring instruments. In the Ninth Plan, two laboratories are being established at Faridabad (Haryana) for the Northern region and at Guwahati for the North-Eastern region.

The Indian Institute of Legal Metrology, Ranchi, imparts training in legal metrology and allied subjects. Apart from the enforcement officials of the States, nominees from many African, Asian and Latin American countries also attend the programmes run by the Institute. The Institute has recently started imparting training to the non-judicial members of Consumer Disputes Redressal Agencies of the States.

19 Energy

ENERGY is an essential input for economic development and improving the quality of life. Development of conventional forms of energy for meeting the growing energy needs of society at a reasonable cost is the responsibility of the Government viz. Ministries of Power, Coal and Petroleum and Natural Gas. Development and promotion of non-conventional alternate new and renewable sources of energy such as solar, wind and bio energy, etc., are also getting sustained attention from the Ministry of Non-Conventional Energy Sources. Nuclear energy development is being geared up by the Department of Atomic Energy to contribute significantly to the overall energy availability in the country.

POWER

Power development in India commenced at the end of the 19th century with the commissioning of electricity supply in Dancesing during 1897, followed by commissioning of a hydel power station at Sivasamudram in Karnataka during 1902. In the pre-independence era, the power supply was mainly in the private sector that too restricted to the urban areas. The Electricity (Supply) Act was enacted in 1948. With the formation of state electricity boards during five year Plans, a significant step was taken in bringing about systematic growth of power supply industry all over the country. A number of multi-purpose projects came into being and with the setting up of thermal, hydro and nuclear power stations, power generation started increasing significantly.

Electricity is a concurrent subject at entry 36 in list III of the Seventh Schedule of the Constitution of India. The Ministry of Power is primarily responsible for the development of electrical energy in the country. The Ministry is concerned with perspective planning, policy formulation, processing of projects for investment decisions, monitoring of the implementation of power projects, training and manpower development and the administration and management of regulations with regard to thermal and hydro power generation, transmission and distribution.

The Ministry of Power is responsible for administration of the Indian Electricity Act, 1910, Electricity Supply Act, 1948 and Electricity Regulatory Commission Act, 1998 and the Electricity Act, 2003. Amendments to these Acts as and when necessary, from time to time, in conformity with the Government's policy objectives.

The construction and operation of generation and transmission projects in the electric sector are entrusted to Central Sector Power Corporations viz.

the National Thermal Power Corporation (NTPC), the National Hydro Electric Power Corporation (NHPC), the North Eastern Electric Power Corporation (NEEPCO) and the Power Grid Corporation of India Limited (PGCIL). The Power Grid is responsible for all the existing and future transmission projects in the Central sector and also for the formation of the National Power Grid. Two joint venture power corporations namely Southpolar Power Corporation (NTPC and Jharkhand Hydro Power Corporation) (NHPC) are responsible for the execution of the Southpolar Power Project at Hirakud, Orissa and projects of the Jharkhand Hydro Power Corporation at Jharkhand respectively. Two statutory bodies, i.e. the Damodar Valley Corporation (DVC) and the Bhakra Beas Management Board (BBMB), are also under the administrative control of the Ministry of Power. Programmes of rural electrification are provided financial assistance by the Rural Electrification Corporation (REC) under the Ministry of Power. The Power Finance Corporation (PFC) provides term finance to project in the power sector. Further the autonomous bodies (institutes), i.e. Central Power Research Institute (CPRI), the National Power Training Institute (NPTI) and the Energy Management Centre (EMC) are also under the administrative control of the Ministry of Power.

The installed power generation capacity in the country has increased from a meagre 4.4 MW in 1947 to 2,917 MW at the end of 1999, comprising 1,816 MW hydro and 1,100 MW thermal (including gas & diesel). 1,194 MW wind and 260 MW nuclear. A capacity addition programme of 6,000 MW has been fixed for the year 2000. Power generation during 1999-2000 was 48,000 MU comprising 30,200 MU thermal, 16,700 MU hydro and 1,100 MU nuclear. The target of power generation for 2000-01 has been fixed at 50,000 MU. The plant load factor has shown a steady improvement over the years and has improved from 70.9 per cent in 1960-61 to 67.3 per cent in 1999-2000. A target of 60.5 per cent has been fixed for the year 2000-01.

NATIONAL INDIAN (III)

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Power Grid shall be in place after completion of ongoing East North Sasaram HVDC inter-connection scheduled for completion by 2002. The power transfer capacity is also planned to be enhanced in a progressive manner up to 14,000 MW by 2004-05 and up to 30,000 MW by 2012 through establishment of various inter-regional AC and HVDC links along with transmission highways.

CENTRAL ELECTRICITY AUTHORITY

The Central Electricity Authority (CEA) is a statutory organisation constituted under Section 9(1) of the Electricity (Supply) Act, 1948. It was established as a part time body in 1951 and made a full time body in 1975. It is an attached office of the Ministry of Power. The Ministry of Power is assisted by the CEA in all technical, financial and economic matters. CEA is responsible for technical coordination and supervision of programmes and is also entrusted with a number of statutory functions.

The CEA is particularly charged with the functions of developing a sound, adequate and uniform national power policy, formulate short term and perspective plans for power development. It coordinates the activities of planning agencies in relation to the control and utilisation of national power resources, technical and commercial appraisal of power schemes, collection of data, evaluation of financial performance of SEBs, analysis of tariff structure in the power industry, training of personnel and promotion of research in power-related matters.

STATE ELECTRICITY BOARDS

As on 31 March 2000 about 51 per cent of the total installed capacity is with the State Electricity Boards (SEBs). Restoration of financial health of SEBs and improvement in their operational performance continues to remain the most critical issue in the power sector. SEBs are required to earn a minimum rate of return (RoR) of three per cent of their net fixed assets in service after providing for depreciation and interest charges. However, only a few SEBs have RoR of more than three per cent.

REFORMS AND RESTRUCTURING IN POWER SECTOR

The Indian Electricity Sector is beset with problems that impede its capacity to respond to the rapidly growing demand for energy. The mono-sector structure of the State Electricity Boards with powers of operation, supply and production as well as regulation concentrated in them has made them inefficient and also unresponsive to the needs of time. Most of them have huge losses to their credit and owe large amounts for power purchase from CPSEs. These and other related problems have necessitated reforms in the power sector. The Government of India has been playing a catalytic role in devising and executing the reform process of the country. The status of reforms is described in brief as under:

Electricity Regulatory Commissions Act, 1998: The Electricity Regulatory

Commissions Act, 1998 was notified on the 2 July 1998. The Act provides for the establishment of a Central Electricity Regulatory Commission (CERC) and State Electricity Regulatory Commissions (SERCs) rationalisation of electricity tariff, transparent policies regarding subsidies, promotion of efficient and environmentally benign policies and for matters connected therewith or incidental thereto.

Central Electricity Regulatory Commission Under the provisions of the Act, the Central Government has constituted the Central Electricity Regulatory Commission in July 1998. The objectives of the CERC are to promote competition, efficiency and economy in bulk power markets and to improve the quality of supply, promote investments and advise government on the removal of institutional barriers to bridge the demand-supply gap and thus foster the interests of consumers.

The Commission has notified the regulations on conduct of business, tariff fixation, terms and conditions for appointment of consultants and drafted the service regulations for its officers and staff. The Indian Electricity Grid Code has also been finalised. The Commission has also issued orders on the Availability Based Tariff (ABT). The implementation of the orders on ABT has, however, been stayed till further orders.

State Electricity Regulatory Commissions Fourteen States (Orissa, Haryana, Andhra Pradesh, Uttar Pradesh, Karnataka, West Bengal, Tamil Nadu, Punjab, Delhi, Gujarat, Madhya Pradesh, Arunachal Pradesh, Maharashtra and Rajasthan) have either constituted or notified the constitution of SERC. Orissa Electricity Regulatory Commission has so far issued three tariff orders. Regulatory Commissions of Andhra Pradesh and UP have issued their first tariff order and Haryana is likely to issue shortly.

Draft Electricity Bill, 2000 The Draft Electricity Bill, 2000 is a comprehensive legislation for the electricity sector prepared with the objective of simplifying and rationalising the existing legislative framework and introducing new features which would accelerate the economic reform. The Bill has since been circulated widely to generate a debate on its various provisions.

RURAL ELECTRIFICATION

Rural electrification is a key supply of energy for two types of programmes: (a) livelihood-oriented activities and income-generation, especially in agriculture and (b) the promotion of various Rural Electrification Programmes and initiatives and executed by the State Power Departments under the rural electrification programme. In all villages with a population of 500, a village have been electrified up to March 2000. Similarly, 24,470 pumpsets have been cranked up to February 2000 out of the total estimated potential requirement of 100,000 pumpsets. Under Kalyan Singh Programme over 30 lakh single phase connections were realised and Rs 22 crore disbursed to the households of rural farmers below poverty line by March 2000.

TRANSMISSION AND DISTRIBUTION REFORMS

Under the provisions of the Electricity Laws (Amendment) Act, 1998 transmission has been made a separate activity which would help in inviting greater participation in investment both from public and private sector. The SEBs of Orissa, Haryana, Andhra Pradesh, Karnataka, Uttar Pradesh and Rajasthan have been unbundled/corporatised. The reform process in Orissa has further progressed with privatisation of distribution in the State. The four subsidiary companies of GRIDCO have been disinvested in favour of the private companies. BSES Limited has taken over the three distribution zones (WESCO, NORTHCO & SOUTHCO) and the US based AES Limited has taken over the Central Zone. The Orissa Power Generation Corporation (OPGC) has also been disinvested to the extent of 49 per cent.

In Haryana, two subsidiary distribution companies have been created out of the state-owned Haryana Vidyut Prasaran Nigam Limited. In Andhra Pradesh, four subsidiary distribution companies have been created out of the state-owned power transmission company (APTRANSCO). The Government of Uttar Pradesh has plan to privatise distribution in Kanpur. The Delhi Electricity Reforms Bill has been cleared by the Central Government and is likely to be introduced in the Delhi Assembly shortly.

PUBLIC SECTOR UNDERTAKINGS AND OTHER ORGANISATIONS

NATIONAL THERMAL POWER CORPORATION

The National Thermal Power Corporation Limited (NTPC), New Delhi, was set up in 1975 as a Central sector generating company for the development of thermal power. NTPC is a schedule 'A' company having a total approved investment of Rs 45,044.57 crore. NTPC has an approved capacity of 22,955 MW and an installed capacity of 19,425 MW representing about 27.5 per cent of the all-India thermal capacity. At present, NTPC has to its credit 13 coal-based thermal power projects and seven gas/liquid-fuel based combined cycle projects. The Corporation has successfully commissioned super thermal power projects at Singrauli, Rihand, Dadri (UP), Korba, Vindhyachal (MP), Ramagundam (AP), Farakka (WB), Kahalgaon (Bihar), Talcher, Kaniha (Orissa) and seven combined cycle gas power projects at Anta (Rajasthan), Auraiya, Dadri (UP), Kawas and Gandhar (Gujarat), Kayamkulam (Kerala) and Faridabad (Haryana). In addition, the Corporation has taken over the 420 MW station at Unchahar (UP) (further added stage-II of 420 MW to the commissioned capacity of the project), 460 MW station at Talcher (Orissa) and 440 MW station at Tanda (UP). NTPC is in the process of implementing Talcher Kaniha-II TPP (2000 MW) in Orissa and Simhadri TPP (1000 MW) in A.P. NTPC has also been entrusted with the management of 705 MW Badarpur Thermal Power Station (BTPS) in Delhi since 1978 and with the implementation and management of BALCO's 270 MW captive power plant near Korba (MP).

Against a target of 5,300 MW to be added during the IXth Plan (1997-2002), NTPC has already added 2,056 MW by March 2000. The recently formulated corporate plan envisages NTPC to become a 30,000 MW plus company by the year 2007 and a 40,000 MW plus company by the year 2012. The Corporation earned an estimated profit of Rs 3,401.96 crore (provisional) during 1999-2000. NTPC has been declared a *Navratna* company.

NATIONAL HYDRO-ELECTRIC POWER CORPORATION

The National Hydro-electric Power Corporation Limited (NHPC) was set up in 1975 to promote the development of hydro-electric power in the Central sector in all its aspects including investigation, research, design, construction, operation and maintenance of hydro-electric power stations. NHPC is a schedule 'A' company of the Government of India with an authorised share capital of Rs 5,000 crore and an investment base of over Rs 10,000 crore. The Corporation has so far completed construction of eight hydro-electric projects in India, namely, Baira Siul (HP) 198 MW, Loktak (Manipur) 105 MW, Salal Stage-I & II (J & K) 345 MW each, Tanakpur (UP) 120 MW, Chamera Stage-I (HP) 540 MW, Uri (J&K) 480 MW and Rangit Stage-II (Sikkim) 60 MW. These power stations with a total installed capacity of 2,193 MW are being operated and maintained by NHPC and generated 8,690.73 MU's energy during 1999-2000. The Corporation has also constructed Devghat hydro-electric project (14 MW) in Nepal. NHPC is presently engaged in the construction of Dulhasti (J&K) 390 MW, Chamera Stage-II (HP) 300 MW and Dhauliganga Stage-I (UP) 280 MW hydro-electric projects. It has also been assigned the construction of Kuruchi hydro-electric project (45 MW) in Bhutan and Kalpong hydro-electric project (5.25 MW) in Andaman & Nicobar islands on agency basis. The projects which are also proposed to be taken for construction are Koel-Karo (Bihar) 710 MW, Teesta Stage-V (Sikkim) 510 MW, Loktak Downstream (Manipur) 90 MW and Parvati Stage-II (HP) 800 MW. The Corporation has also been identified as a neutral agency by the Ministry of Power for taking up construction of the Cauvery Projects. The Corporation also proposes to diversify into Wind Power, Mini/Micro Hydro Projects and Geo-thermal Power. The capacity addition targets for the Xth and XIth plan periods are 1,570 MW and 4,005 MW respectively. During 1999-2000 the Corporation earned a profit of Rs 417.90 crore. The Corporation also undertakes consultancy work in the field of hydro-electric power.

POWER GRID CORPORATION OF INDIA LIMITED

The Power Grid Corporation of India Limited (PGCIL) was incorporated as a Government of India enterprise on 23 October 1989 under the Companies Act, 1956 as a limited company with an authorised capital of Rs 5,000 crore. The mandate of the Corporation, in terms of corporate mission, is establishment and operation of regional and national power grids to facilitate transfer of power within and across the regions with reliability, security and economy on sound commercial principles. It has been declared a *Mini-Ratna* company.

Powergrid is operating about 39,000 CKMs of EHV transmission lines,

which are maintained at an availability of 99.22 per cent distributed over 65 sub-stations having a capacity of about 31,655 MVA. About 30 per cent (30,000 MW) of total power generated in the country is being transferred across the country over Powergrid's transmission network. At all India level energy exchange between different regions has increased from 3,600 MU in 1997-98 to 7,350 MU in 1999-2000 due to concerted efforts by Powergrid in setting up inter-regional links. During 1999-2000, the company earned a net profit of Rs 570 crore (provisional) on a turnover of Rs 2,120 crore (provisional) and commissioned major transmission systems namely, Dulhasti-Kishenpur transmission lines (400 KV S/C & D/C), Nalagarh-Hissar and Abdullapur-Bawana 400 KV D/C transmission lines along with associated sub-stations, Kishenpur-Moga-I 800 KV S/C transmission line, augmentation of NER transmission system and Vindhyachal Stage-II Transmission System. Powergrid is also playing a catalytic role in the development of SAARC Grid by facilitating interconnection with SAARC countries for mutual exchange of power and harnessing the vast potential of diversified resources and load patterns.

RURAL ELECTRIFICATION CORPORATION LIMITED

The Rural Electrification Corporation Limited (REC) was set up in 1969 with the primary objective of providing financial assistance for rural electrification in the country. REC was declared a public financial institution under Section 4-A of the Companies Act in 1992. Rural electrification programmes financed by the Corporation cover electrification of villages including tribal villages and *Dalit Bastis*, energisation of pumpsets, provision of power for small, agro-based and rural industries, lighting to rural households and street lighting. The Corporation has been providing assistance to the State Electricity Boards for taking up system improvement projects for strengthening of transmission and distribution system and small generation power projects like wind energy and hydel projects. REC is a schedule 'B' organisation.

During 1999-2000, REC has approved 1,379 new projects involving a loan assistance of about Rs 4,678 crore for electrification of 3,501 new villages, energisation of 2.12 lakh pumpsets besides provision of electricity to other categories of services, electrification of *Dalit Bastis* and hamlets, etc. The Corporation has (cumulative up to March 2000) sanctioned 36,034 rural electrification projects involving financial assistance of Rs 22,280 crore.

The *Kutir Jyoti* programme which provides for single point connection to the households of the rural poor below the poverty-line continued to be given special thrust.

POWER FINANCE CORPORATION LIMITED

The Power Finance Corporation Limited (PFC), New Delhi, was incorporated on 16 July 1986 under the Companies Act, 1956 and was declared a public financial institution in August 1990. The main objectives of the Corporation include financing of power generation projects, transmission and distribution

works, renovation and modernisation of power plants, system improvement and energy conservation schemes, maintenance and repair of capital equipment.

The authorised share capital of the Corporation is Rs 2,000 crore and paid-up capital is Rs 1,035.45 crore. Till 31 March 2000, it had sanctioned loans in the power sector amounting to Rs 22,719 crore and had disbursed Rs 15,162 crore against the sanctions. The Corporation has been consistently earning profits since commencement of its financial operation. The profit (after tax) has been Rs 622.47 crore for 1999-2000. The Corporation has been signing a MoU with the Government of India each year since 1993-94. For the purpose of institutional development, the Corporation has evolved an Operational and Financial Action Plan for each of its beneficiaries, namely, SEBs and State Generating Corporations in the country. During 1999-2000 the Corporation sanctioned an amount of Rs 6,490 crore while the actual disbursement was Rs 3,404 crore.

NORTH-EASTERN ELECTRIC POWER CORPORATION LIMITED

The North-Eastern Electric Power Corporation Limited (NEEPCO), Shillong was constituted in 1976 under the Companies Act with the objective of harnessing the power potential of the north-eastern region through planned development of power generation projects. NEEPCO is a schedule 'B' organisation with an authorised share capital Rs 2,500 crore. The projects under operation of the Corporation for all the States in the North-East are Kopili stage-I (150 MW), Assam; Kopili stage-I Extension (100 MW), Assam; Assam Gas Based Combined Cycle Power Project, Kathaguri (291 MW), Assam; and Agartala Gas Based Power Project (84 MW), Tripura. The Corporation is also engaged in the execution of Ranganadi HE Project (405 MW), Arunachal Pradesh and Doyang HE Project, Nagaland (U-III). NEEPCO has also taken up the Tuirial HE Project (60 MW) and Kopili HE Project stage-II (25 MW) in Mizoram and Assam respectively. The Corporation also envisages taking up the Kameng HE Project (600 MW) in Arunachal Pradesh, Tipaimukh HE Project (1500 MW) in Manipur, Tuivai HE Project (210 MW) in Mizoram, Lower Kopili HE Project (150 MW) in Assam, Ranganadi HE Project stage-II (180 MW) in Arunachal Pradesh and Tripura Gas Based Project (500 MW) during the Ninth Plan period.

NATHPA JHAKRI POWER CORPORATION LIMITED

The generation component of the 6x250 MW Nathpa Jhakri Hydro-electric Power Project (NJHPP) was sanctioned in April 1989 for execution by the Nathpa Jhakri Power Corporation Limited (NJPC), Shimla, a joint venture of the Government of India and the Government of Himachal Pradesh with equity participation in the ratio of 3:1 respectively. The authorised share capital of NJPC is Rs 4,500 crore.

The mission of NJPC is to plan, promote, operate and maintain Hydro-electric Power Projects in the Satluj river basin in Himachal Pradesh. The project envisages to harness the hydro power potential in the upper reaches

of river Satluj. On commissioning, the 1500 MW NJHPP will generate 6,700 MUs of electrical energy.

TEHRI HYDRO DEVELOPMENT CORPORATION LIMITED

The Tehri Hydro Development Corporation (THDC) was incorporated on 12 July 1988 as a joint venture of the Government of India and Government of Uttar Pradesh to execute the 2,400 MW Tehri Hydro Power Complex in Tehri Garhwal (Uttaranchal) and also to plan, promote and organise the development and harnessing of hydro-electric projects in Bhagirathi, Bhilangana valley as may be entrusted to the Corporation by the Government. The Corporation has an authorised share capital of Rs 2,000 crore.

The project will generate 6,500 Million Units of energy per year on completion of entire Complex (3,568 Million Units on completion of stage-I) and will provide additional irrigation facility to 2.07 lac ha. besides stabilizing existing irrigation facility in 6.04 lac ha of land. The Project will provide drinking water facilities for Delhi, and towns and villages of Uttaranchal and UP. The 400 MW Koteshwar Project, a part of Tehri Power Complex, is scheduled to be commissioned by the year 2005.

DAMODAR VALLEY CORPORATION

The Damodar Valley Corporation (DVC) the first multipurpose river valley project of the Government of India, was set up on 7 July 1948 under DVC Act (xiv of 1948) for the unified development of Damodar Valley region spread over the States of Bihar and West Bengal. DVC's objectives include flood control and irrigation, power generation and distribution, soil conservation, social and economic well-being of the people of Damodar Valley region. DVC's main projects include four dams at Maithon, Panchet, Tilaiya and Konar, with connected hydro-electric power stations (except at Konar), thermal power stations at Bokaro 'A', Bokaro 'B', Chandrapura, Durgapur, Mejia and also one gas turbine station at Maithon. DVC supplies power to coal mines, steel plants, railways and other big industries, besides state electricity boards of Bihar and West Bengal. DVC's transmission system runs to a total length of 5,401 ckt km. The system is supported by 52 sub-stations. Interconnected with NTPC and Chukha, DVC system operates as a constituent of the interconnected grid system of EREB. The total installed capacity of DVC in March 2000 was 2,761.5 MW comprising 2,535 MW of thermal capacity, 144 MW of hydel capacity and 82.5 MW by gas turbine station.

BHAKRA BEAS MANAGEMENT BOARD

The Bhakra Beas Management Board manages the facilities created for harnessing the waters impounded at Bhakra and Pong in addition to those diverted at Pandoh through the BSL Water Conductor system. It was also assigned the responsibility of delivering water and power to the beneficiary states in accordance with their entitled shares. The Board is responsible for

the administration, maintenance and operation at Bhakra Nangal Projects, Beas Project Unit I & Unit II including Power Houses and a network of transmission lines and grid sub-stations. The power generation at BBMB power stations is being evacuated through BBMB power evacuation system running into 3,775 circuit km length of 400 KV, 220 KV, 132 KV and 66 KV transmission lines and 24 KHV sub-stations. The installed capacity of BBMB power plants is 2,799.65 MW. The generation during 1999-2000 was 12,012 MUs.

ENERGY MANAGEMENT CENTRE

The Energy Management Centre (EMC), New Delhi was established by the Government of India in April 1989 to act as a centre for information, research, training and international cooperation in the field of energy management. EMC is currently implementing the "Indo-German Technical Cooperation Programme" on energy conservation in industries for Karnataka including setting up of energy information service and carrying out dissemination programme.

NATIONAL POWER TRAINING INSTITUTE

The National Power Training Institute (NPTI), Faridabad was set up in 1980 as an autonomous body to function as the national apex body for the human resource development of Indian Power Sector. It has four regional institutes at Neyveli, Durgapur, New Delhi and Nagpur. NPTI conducts a number of long-term and short-term training programmes for engineers, operators and technicians engaged in thermal hydropower generation, transmission and distribution, etc. The Institute also conducts Post Graduate Diploma Course in Thermal Power Plant Engineering at its regional institutes. NPTI has developed Computer-based Self-Learning Training Packages (CBT), which is being used by a number of State Electricity Boards and power utilities.

CENTRAL POWER RESEARCH INSTITUTE

The Central Power Research Institute (CPRI), Bangalore was established in 1960. It was reorganised into an autonomous society under the Ministry of Power in 1978. The institute is managed by a governing body comprising members representing the government, the electrical utilities, the industries and academic institutions, etc. The objectives of the Institute are : (i) to serve as a national centre for applied research in electrical power engineering; (ii) to function as an independent and impartial authority for testing and certification of power equipment manufactured in the country; (iii) to perform tests for product development and quality assurance; (iv) to undertake research programmes on subjects of interest in the field of power system; and (v) to offer consultancy on problems referred by utilities and industries. The Institute has several laboratories and testing facilities. With its head office at Bangalore, the other units of the Institute are located at Bhopal, Hyderabad, Nagpur, Ghaziabad, Thiruvananthapuram and Raichur.

PRIVATE SECTOR PARTICIPATION

The Government of India had announced a policy in 1991 which allowed private sector participation in power generation and distribution schemes. It decided in February 1995 that no private power project proposal would be considered by Central Electricity Authority (CEA), if the project was not awarded through the invitation of tenders under the international competitive bidding route.

Presently 95 private power projects with 54,967 MW of installed generation capacity are being monitored by the Central Government. In addition, there are several projects which are being set up by the private sector with the approval of the State Governments and do not require the techno-economic clearance of CEA. So far, 57 projects of 29,375 MW capacity have been given techno-economic clearance by CEA.

The Government of India had in 1994 identified eight projects for extending its counter-guarantee. Counter-guarantee has already been extended to seven projects while in case of one project, the request for counter-guarantee was withdrawn by a private power project.

To facilitate setting up of large sized thermal power plants in the country and in order to derive the economies of scale, revised mega power policy has been introduced. A number of projects have been identified as mega power projects. Power Trading Corporation (PTC) has been incorporated, for the purpose of buying power from mega power projects under long-term Power Purchase Agreements (PPAs) and selling the same to the beneficiary states also under long-term PPAs. Certain fiscal concessions have been given to mega power projects to make the tariff cheaper.

In 1995 the Government announced a liquid fuel policy in order to achieve quick capacity addition by setting up of short gestation power projects. Under this policy a capacity addition of 12,000 MW was envisaged on liquid based fuels like naphtha, HPS, LSHS, HFO, FO, refinery residue and petroleum coke. This policy was modified in July 1998, when all other fuels except naphtha were taken out of ceiling of 12,000 MW and also included orimulsion and condensate as liquid fuel.

COAL

Coal is the main source of energy in the country and accounts for about 67 per cent of the country's commercial requirement. Coal is also an essential input in steel and carbo-chemical industries.

COAL RESERVES

As on 1 January 2000 coal reserves of India (down to a depth of 1,200 metres) have been estimated by the Geological Survey of India at 2,11,593.61 million tonnes. The state-wise distribution is given in table 19.1.

TABLE 19.1: DISTRIBUTION OF COAL RESERVES

(in million tonnes)

State	Proved	Indicated	Inferred	Total
Andhra Pradesh	7,345.86	3,312.27	2,928.67	13,586.80
Arunachal Pradesh	31.23	11.04	47.96	90.23
Assam	259.37	26.83	34.01	320.21
Bihar	34,794.44	28,692.21	5,641.54	69,128.19
Madhya Pradesh	13,010.35	22,148.43	8,333.93	43,429.71
Maharashtra	4,148.83	1,322.87	1,605.41	7,077.11
Meghalaya	117.83	40.89	300.71	459.43
Nagaland	3.43	1.35	15.16	19.94
Orissa	11,140.04	22,754.96	16,553.65	50,448.65
Uttar Pradesh	765.98	295.82	—	1,061.80
West Bengal	10,778.58	10,894.15	4,235.81	25,908.54
Total	82,395.94	89,500.82	39,696.85	2,11,593.61

PRODUCTION

Coal production during the year 1999-2000 was 300.09 million tonnes (CIL-260.69 mt; SCCL-29.56 mt.; Captive collieries-9.84 mt.)

Colliery Control Order, 1945 has been superseded with a new order called Colliery Control Order, 2000 according to which the price and distribution of all grade of coal with effect from 1 January 2000 has been de-regulated. Coal is distributed on the basis of linkages/sponsorship. Short-term linkages for important sectors of economy like power and cement are decided on quarterly basis by Standing Linkage Committee set up under the Ministry of Coal. Linkages to non-core sector consumers are within the purview of Coal India Limited. Off-take of raw coal during 1998-99 and 1999-2000 to major sectors of the economy is given in table 19.2.

TABLE 19.2 : OFF-TAKE OF RAW COAL

(in million tonnes)

Year	Power ¹	Steel ²	Loco	Cement	Fertilizer	Others	Total
1998-99	207.70	24.98	0.03	8.61	4.11	46.17	291.60
1999-2000 ³	221.38	21.90	0.01	9.25	3.30	46.81	302.65

¹ Including washery middlings & washed coal² Excluding imports³ Provisional

PROJECTS AND PLANNING

Under the revised delegation of power approved by Coal India Limited (CIL) Board on 29 December 1997, coal projects costing up to Rs 100 crore can be sanctioned by the Board of Directors of Coal India Limited (CIL), and coal projects costing up to Rs 50 crore can be sanctioned by the Board of Directors of Northern Coalfields Limited (NCL), Western Coalfields Limited (WCL), South Eastern Coalfields Limited, (SECL), and Mahanadi Coalfields Limited, (MCL), subject to the condition that the project should be included in the approved Five Year and Annual Plans and outlays provided for and the required funds can be found from the internal resources of the company and the expenditure is incurred on schemes included in the capital budget approved by the Government. The Board of Directors of ECL, BCCL, CCL and CMPDIL (Central Mine Planning & Design Institute Limited) can, however, sanction coal projects up to Rs 50 crore.

Projects costing more than Rs 100 crore are sanctioned by the Government. After nationalisation of the coal industry in 1973 till March 2000, the number of projects sanctioned (each costing Rs two crore and above) was 699 with a total investment of Rs 26,062.36 crore. Of these, 468 are mining and 231 are non-mining projects. Out of 468 mining projects, 351 have been completed and 117 are under various stages of implementation. These projects on completion will have a capacity of 368.04 million tonnes of coal per annum.

MINING AND MINING TECHNOLOGY

Even though the history of Indian coal mining dates back more than two centuries, the real spurt in coal production took place only after the nationalisation of the coal industry. Coal production in the country is now almost completely in the public sector coal companies, *e.g.*, Coal India Limited (CIL) and Singareni Collieries Company Limited (SCCL), except for a few captive mines of TISCO, IISCO, DVC and Bengal Emta. Coal India Limited producing almost 90 per cent of the country's total coal production, has seven coal producing subsidiaries, namely, Eastern Coalfields Limited (ECL), Bharat Coking Coal Limited (BCCL), Central Coalfields Limited (CCL), Northern Coalfields Limited (NCL), South Eastern Coalfields Limited (SECL), Mahanadi Coalfields Limited (MCL) and Western Coalfields Limited (WCL). The eighth subsidiary Central Mine Planning and Design Institute Limited (CMPDIL) is the planning and design institute. SCCL is a joint venture of the Central Government and Government of Andhra Pradesh. About 76 per cent of the coal production is obtained through opencast mines which are mostly mechanised deploying draglines, shovels, dumpers, drills, dozers, etc. Mechanisation of underground mines has also been taken up. Most of the equipment used in coal mines are indigenously available. At present, there are 20 coking coal washeries with an annual capacity of 34.66 million tonnes.

COAL CONSERVATION

Conservation of coal is an integral part of mine planning and operation. This

is ensured by maximum recovery of *in-situ* reserves of coal. Mechanised opencast mining in India is the most prevalent technology. The percentage recovery by this method is up to 90 per cent of the *in-situ* coal reserves. Since coal deposits in India are mostly in thick seams and occur at shallow depths, special techniques for maximising recovery are being developed for underground mining. Blasting gallery method is being increasingly used in mines of SCCL with excellent results. Coal India Limited and Singareni Collieries Company Limited have introduced mechanised longwall technology that ensures higher extractability. In steep and thick seams of Margheritta area of NEC (Assam) a system of Shield Mining has been introduced. The percentage of extraction is nearly 70 per cent which is an improvement over 32 per cent to 35 per cent in the conventional system.

The Coal Mines Conservation and Development Act, 1974 provides for imposition of excise duty on coal despatches for meeting activities like conservation of coal, development/introduction of new technology in coal mines, safety in mines and assistance in mining operation. A number of research and development activities in coal sector are carried out under the overall guidance and supervision of the Standing Scientific and Research Committee and its four sub-committees. The applied research is carried out in the fields of production, productivity, safety, coal preparation, coal utilisation, environment and ecology.

SAFETY AND WELFARE

Special efforts to improve the standard of safety in the coal industry have brought down the rate of fatalities per million tonne of output in Coal India Limited to 0.37 and in Singareni Collieries Company Limited to 0.87 in the year 1999. A Standing Committee on Safety regularly reviews safety standards in coal mines.

Coal industry employs over seven lakh workers. Since the nationalisation of coal mines, welfare of coal miners by way of providing facilities like housing, water supply, medical care, education, etc., is being given greater attention.

LIGNITE

Lignite reserves in India have been estimated at around 29,360 million tonnes. Out of this, 3,300 million tonnes is in the Neyveli area of Arcot district in Tamil Nadu and about 2,000 million tonnes have been identified as mineable under the presently adopted mining parameters. Geological reserves of about 1,167 million tonnes of lignite have been identified in Jayamkondam of Trichy district in Tamil Nadu. In Mannargudi and East of Veeranam, geological reserves of around 19,500 million tonnes and 1,420 million tonnes of lignite have been estimated respectively. Lignite reserves have been identified in Rajasthan, Gujarat and Jammu & Kashmir to the extent of 1,496 million tonnes, 1,505 million tonnes, and 128 million tonnes respectively.

Lignite reserves at Neyveli are exploited by Neyveli Lignite Corporation

Limited (NLC). Incorporated as a private limited company in 1956, NLC was wholly owned by the Government of India and converted into a public limited company with effect from 7 March 1986. Over the years, it has acquired considerable expertise and has established itself as a premier organisation in the field of lignite-mining and lignite-based power generation in the country. NLC is an integrated complex consisting of two lignite mines, thermal power stations, a fertilizer plant and a briquetting and carbonisation plant.

During 1999-2000, NLC produced 175.51 lakh tonnes of lignite, 13,304.74 MU of power, 17,204 tonnes of Urea and 1,22,900 tonnes of coke.

NON-CONVENTIONAL ENERGY SOURCES

The importance of increasing the use of renewable energy sources was recognised in our country in the early 1970s. During the past quarter century, a significant effort has gone into the development, trial and induction of a variety of renewable energy technologies for use in different sectors. The country has today among the world's largest programmes for renewable energy. The activities cover all major renewable energy sources of interest to us, such as biogas, biomass, solar energy, wind energy, small hydropower and other emerging technologies. Several renewable energy systems and products are now commercially available, and are also economically viable in comparison to fossil fuels. The Ministry of Non-Conventional Energy Sources (MNES) created in 1992 is the nodal agency of the Government of India for all matters relating to non-conventional/renewable energy. It undertakes policy making, planning, promotion and coordination functions relating to all aspects of renewable energy, including fiscal and financial incentives, creation of industrial capacity, promotion of demonstration and commercial programmes, R&D and technology development, intellectual property protection, human resource development and international relations.

India is implementing the programmes on renewable energy, covering the entire gamut of technologies, including improved *chulhas*, biogas plants, short rotation fuelwood tree species, biomass gasifiers, solar thermal and solar photovoltaic systems, wind farms, wind mills, biomass-based cogeneration, small and micro hydel systems, energy recovery from urban, municipal and industrial wastes, hydrogen energy, ocean energy, fuel-cell, electravans and gasohol. In each of these areas, there are programmes of resource assessment, R&D, technology development and demonstration. Based thereon, several renewable energy systems and products are now not only commercially available, but are also economically viable in comparison to fossil fuels. A large domestic manufacturing base has been established for renewable energy systems and products. India is the third largest producer in the world of solar cells and photovoltaic (PV) modules.

India now has very good R&D base for the development of technologies for harnessing renewable/non-conventional energy sources. A substantial manufacturing infrastructure and consultancy services have also emerged in

the country for the design, manufacture and supply of non-conventional energy equipment. These include small scale and medium/large scale industries, both in the public sector as well as the private sector. India is now also in a position to offer its goods, technical expertise and services in this sector, particularly to developing countries. Technical guidance and help has been provided to many developing countries for the construction of biogas plants. Products, which are being exported, include solar photovoltaic systems, wind turbine equipment, selectively coated sheets for thermal applications and solar cookers. Indian made wind turbine and wind turbine components have been exported to Europe, Australia and Sri Lanka. Indian designs of gasifiers have attracted countries like Switzerland, Indonesia and USA. A Swiss company has installed Indian designs of gasifier based decentralised power generation units in Switzerland. Indian scientists and engineers have provided consultancy services on different aspects of non-conventional/renewable energy through various UN agencies like UNDP, UNESCO, UNIDO and similar other organisations.

ACHIEVEMENTS

India has today one of the world's largest programmes for renewable energy. It is now recognised that renewable energy sources can provide the basis for sustainable energy development on account of their inexhaustible nature and environment-friendly features. During last two decades, several renewable energy technologies have been developed and deployed in villages and cities. Some of the achievements are given in table 19.3 along with the estimate potential.

TABLE 19.3 : RENEWABLE ENERGY POTENTIAL AND ACHIEVEMENTS

Sl. No.	Source/System	Approximate Potential	Status (as on 31.03.2000)
1.	Biogas plants (No.)	120 lakh	30 lakh
2.	Improved Chulha (No.)	200 lakh	320 lakh
3.	Solar Water-Heating Systems	-	Over 5,00,000 sq mtr Collector area
4.	Solar Photovoltaic Systems	20 MW/sq km	57 MW (including 13 MW of exports)
5.	Biomass Power	19,500 MW	
	(i) Biomass Gasifiers (Stand alone applications)		34 MW
	(ii) Biomass combustion/gasifier based power generation		39 MW
	(iii) Bagasse based Cogeneration		183 MW
6.	Wind Power	20,000 MW	1,167 MW

7. Small Hydro Power	10,000 MW	217 MW (up to 3 MW capacity)
8. Solar Photovoltaic Power		1.16 MW grid connected & 884 KW non-grid connected
9. Integrated Rural Energy Programme		860 Blocks
10. Energy Parks		189 Nos.
11. Wind Pumps		637 Nos.
12. Aerogenerator/Hybrid Systems		75 KW
13. Solar PV Pumps		3,400 Nos.
14. Solar Cookers		4,90,000 Nos.
15. Energy Recovery from wastes	1,700 MWe	15.21 MWe.

RURAL ENERGY

A major achievement has been in the area of cooking energy in rural areas with the establishment of three million family size biogas plants and 32 million improved wood stoves, in both, India being second only to China. Only about a quarter of the total potential has been exploited so far. The biogas plants and improved wood stoves presently in use are resulting in a saving of over 13 million tonnes of fuelwood every year. In addition, enriched organic manure is produced from the biogas plants to supplement and complement expensive and environmentally degrading chemical fertilizers, equivalent to about 8.5 lakh tonnes of urea per year.

NATIONAL PROJECT ON BIOGAS DEVELOPMENT

The National Project on Biogas Development was initiated in 1981-82 for the promotion of family type biogas plants which aims at providing clean and cheap source of energy in rural areas, producing enriched organic manure for supplementing the use of chemical fertilizers, improving sanitation and hygiene and removing the drudgery of women. Three types of designs of biogas plants namely the floating drum type KVIC design, fixed dome-type, and bag-type portable digester made of rubberized nylon fabric are being propagated under this programme. The most remarkable achievement of this programme has been the acceptance by the rural people of the human night-soil as feed material in addition to other bio-degradable materials like animal dung, kitchen wastes, water hyacinth, etc.

Biogas programme is implemented by the State Governments and Union Territory administrations, the State corporate and registered bodies, the KVIC, Mumbai and National Dairy Development Board (NDDB), Gujarat. Non-governmental organisations are also being given targets for implementation of biogas programme. In order to propagate large-scale use of biogas technologies in rural India, the Ministry is providing financial subsidy and

other financial support to the consumers and also to the entrepreneurs, corporate bodies and NGOs for the installation of biogas plants on turn-key basis with free maintenance and servicing warranty for the first three years. Additional subsidy is given to sanitary toilet-linked biogas plants and also incentives for saving diesel. The State governments and other implementing agencies are provided service charges linked with targets for organisational set-up at different levels. Technical Back-up Units (TBUs) set up at nine locations are providing technical and training support in a decentralised manner. Apart from this, 15 biogas extension centres are also sanctioned. Commercial and co-operative banks are providing loans for the setting up of biogas plants under the agricultural priority area schemes. The National Bank for Agriculture and Rural Development continues to provide automatic re-financing facility to the banks for the loan amounts disbursed for biogas plants.

Apart from the family-size biogas plants, community, institutional and night-soil based biogas plants are also being installed for different applications. This scheme is also being implemented by the State government departments, State nodal agencies and the NGOs.

Up to the end of 1999-2000, a total of 30 lakh biogas plants have been installed which are estimated to generate fuel gas equivalent to the saving of about 30 lakh tonnes of fuel wood per year. Besides, these plants are generating enriched organic manure containing nitrogen equivalent to about 8.5 lakh tonnes of urea per annum for supplementing chemical fertilizers and improving soil fertility. The Ministry is constantly conducting R&D in order to improve the technology and reduce the cost of biogas plants. Efforts are also made to develop technology for use in cold climatic regions of the country.

NATIONAL PROGRAMME ON IMPROVED CHULHAS

The National Programme on Improved *Chulhas* (NPIC) was launched during 1984-85 with the objectives of fuel conservation, removal/reduction of smoke from kitchens, check on deforestation and environmental degradation, reduction in drudgery for women and consequent health hazard and employment generation in rural areas. As a result of continuing R&D efforts, different types of improved *chulhas* have been developed. These are available as fixed and portable types. While the traditional *chulhas* have an efficiency of 8-10 per cent, these improved *chulhas* have a minimum thermal efficiency of 20-25 per cent. In order to ensure the quality and durability, the Bureau of Indian Standards has already introduced ISI marking scheme on portable *chulhas*. The Technical Back-up Units (TBUs) located at eight different locations act as Test Centres for the BIS. The programme is implemented through a multi-agency approach involving State nodal departments, State nodal agencies and corporate bodies, KVIC, NDDDB and NGOs. MNES provides financial and technical assistance in the implementation of programme both to users and the implementing agencies.

A total of 32 million improved *chulhas* have been installed till the end of 1999-2000. These are expected to be saving over 100 lakh tonnes of fuel wood per annum besides, reduction in the drudgery to the women, improvement in kitchen environment resulting in reduction of health hazards, check on deforestation, etc.

INTEGRATED RURAL ENERGY PROGRAMME

The Integrated Rural Energy Programme (IREP) was launched as a regular plan scheme during Seventh Five Year Plan. The objectives of IREP are provision of energy for meeting the basic needs of cooking, heating and lighting specially for the weaker sections by utilising locally available resources to the extent possible, and provisions of energy as the critical input in the economic development of rural areas that would result in the creation of employment, increase in productivity and income, besides accelerating the process of decentralised development.

The programme has now been extended to 860 blocks. Nineteen State-level technical back-up units and 171 districts-level technical back-up units have been sanctioned under the programme. Besides, 22 block-level national pilot projects have been sanctioned in existing IREP blocks for replication in other blocks. Under the IREP Programme, Regional Training-cum-R&D Institutes at village Bakoli (Delhi), Lucknow (UP), Bangalore (Karnataka), village Amral in Kheda District (Gujarat) and Shillong (Meghalaya) have been sanctioned, and the two centres, at Delhi and Lucknow, are already operational.

SPECIAL AREA DEMONSTRATION PROGRAMME

The Special Area Demonstration Programme (SADP) was started in 1992-93 for demonstrating the renewable/non-conventional energy systems in remote, far-flung areas, hilly terrain, islands and such other difficult areas which are unelectrified for meeting their energy needs. Energy Park Scheme for setting up at educational institutions has been taken up under SADP, with a view to create awareness amongst the students, teachers and public. 189 energy parks have been sanctioned till 31 March 2000.

SOLAR ENERGY

India receives 5,000 trillion Kwh of solar radiation per year. Most parts of the country have 300 clear sunny days in a year. It is possible to generate 20 MW solar power per square kilometre land area. Presently solar energy is being utilised through two different routes, namely, solar thermal route and solar photovoltaic route. The technology for the manufacture of the cells and panels has been developed and commercialised almost entirely on the basis of domestic R&D. India is one of the six countries which have developed the technology for manufacture of polysilicon material. About 11 MW of module production was achieved, which is 6 per cent of the world production. About 75 companies are involved in production of solar cells, modules and systems. Over 100 companies are involved in the local production of solar thermal

systems such as solar cookers and solar water heaters.

SOLAR THERMAL ENERGY PROGRAMME

Solar energy can be converted into thermal energy with the help of solar collectors and receivers. With the increasing demand for thermal energy in different sectors, there is vast scope for the utilisation of solar thermal devices. The solar thermal devices are being utilised for water heating, space heating, cooking, drying, water desalination, industrial process heat, steam generation, for industrial and power generation applications, operation of refrigeration systems, etc. These devices have been put under three categories, viz., low-grade heating devices up to the temperature of 100 degree centigrade, medium-grade solar thermal devices between the temperature of 100° C and 300° C and high-temperature solar thermal devices above 300° C. By making use of solar concentrators and properly designed receivers, steam at temperatures of up to 1000° C can be generated utilising solar energy.

Low-grade solar thermal devices like solar water heaters, air heaters, solar cookers, solar dryers, etc, have already been developed in the country and are being utilised for various applications. Solar water heaters of capacity ranging from 50 litres per day to 2,10,000 litres per day for domestic, commercial and industrial applications have been installed in the country. These technologies have been developed indigenously.

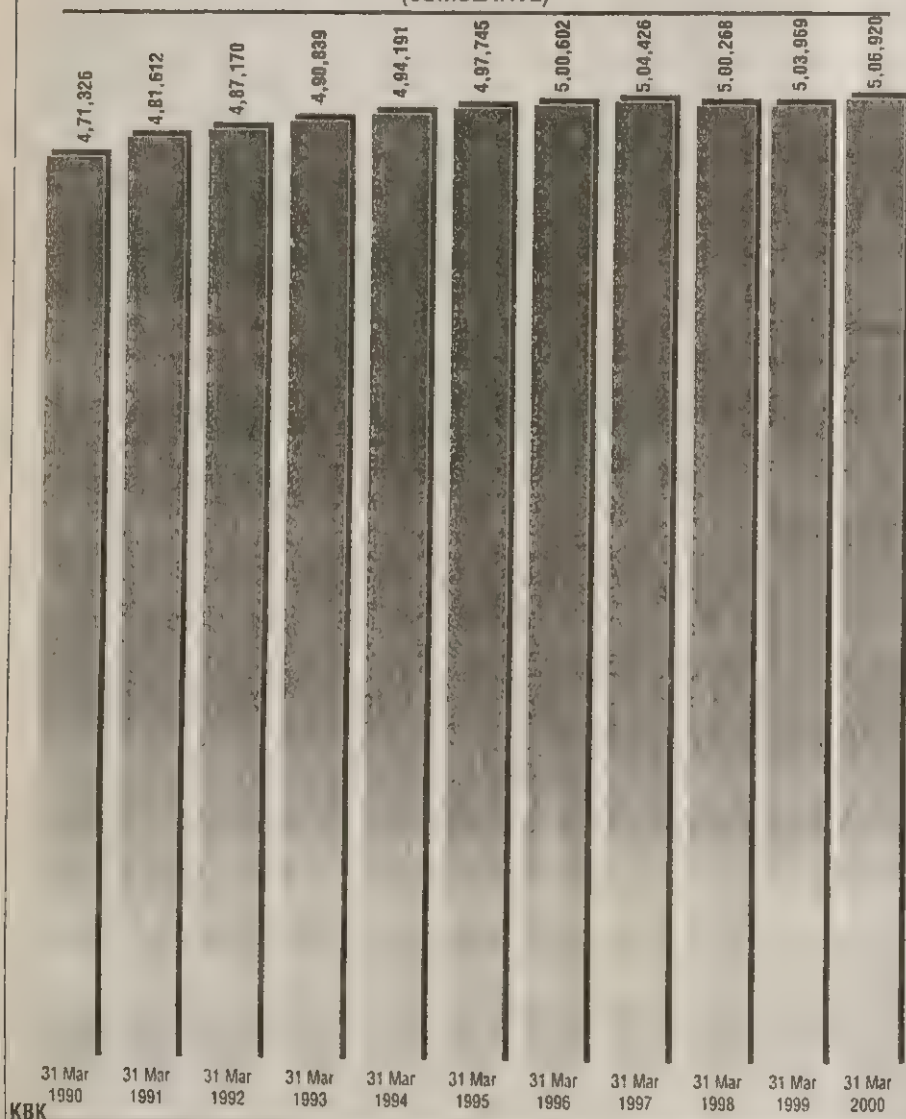
In the area of solar energy utilisation, solar thermal technologies are now finding ready acceptance for a variety of applications. Over 5,00,000 square metres of collector area has so far been installed ranging from domestic water heaters of 50-100 litre capacity in over 50,000 homes to industrial and commercial systems of up to 2,40,000 litres of hot water per day. Around half a million box type solar cookers are also in use. The world's largest solar steam cooking system for cooking food for 10,000 people has been installed at Mount Abu, Rajasthan by the Brahmakumaris and is functioning well since April 1999. Efforts are also on to make use of the solar passive architecture to reduce the energy consumption and improve the comfort conditions in buildings. Green House Technology for growing vegetables, flowers, etc., in cold climatic regions has also been successfully developed and introduced in the market. The Ministry has already initiated efforts to open marketing outlets. "Aditya Solar Shops" are being set-up in major cities and towns with financial support of the Ministry to State nodal agencies and NGOs for promoting spot sale of NRSE gadgets, servicing and repair of devices and dissemination of information.

SOLAR PHOTOVOLTAIC PROGRAMME

Solar Photovoltaic (SPV) technology enables the conversion of solar radiation into electricity without involving any moving part like turbine, etc. The photovoltaic systems have emerged as useful power source not only for applications such as lighting, water pumping and telecommunication, but also as power plants for meeting the electricity needs of villages, hospitals, lodges, etc.

PROGRESS OF RURAL ELECTRIFICATION

VILLAGES ELECTRIFIED
(CUMULATIVE)



Over 7,00,000 solar PV systems including exports aggregating to about 57 MW have been deployed. They involve around 32 different types of systems for rural, remote area and commercial applications, including home and street lighting/water pumping and rural telecommunication systems. Solar lighting/water pumping systems are now being used in 3,88,000 homes. About 1,90,000 rural radiotelephones are also being powered by solar energy. Under the SPV programme, about 2,78,000 solar lanterns; 1,10,000 home lighting systems; 39,000 street lighting systems; 3,400 water pumping systems and non-grid power plants/packs of 1 MWp aggregate capacity have been installed till March 2000.

POWER FROM RENEWABLES

A total power-generating capacity of about 1,700 MW has so far been added from renewables. Most of the renewable energy capacity has come about through commercial projects. There are four major areas of renewable energy being tapped for power generation. These are wind energy, small hydro, biomass and solar energy.

WIND POWER

The gross wind power potential of India is estimated to be about 20,000 MW, while the present technical potential is limited to about 9,000 MW governed by the grid capacity in the potential States. A capacity of 1,167 MW has been added so far, which places India in the fifth position in the world, after Germany, USA, Denmark and Spain. The package of policies along with the establishment of a domestic wind turbine industry have led to this phenomenal growth in the wind power sector. Wind turbine equipment worth Rs 50 crore were exported during 1999-2000. To support wind energy programme the Ministry is implementing the world's largest Wind Resource Assessment Programme. 192 locations have so far been identified which can be considered suitable for wind power projects. A Centre for Wind Energy Technology (C-WET) has been set up at Chennai with the objectives of promoting and accelerating the utilisation of wind power and supporting the growing wind power sector in the country.

BIOMASS POWER

The National Programme on Biomass Power/Cogeneration aims at the optimum utilisation of a variety of biomass materials namely, forestry-based and agro-based industrial residues and dedicated energy plantations, besides forestry and agro residues for power generation through the adoption of efficient and state-of-the-art conversion technologies. These include combustion/incineration, pyrolysis, gasification, etc., using gas/steam turbine, dual fuel engine/gas engine or a combination thereof, either for generation of power alone or for cogeneration of more than one energy forms — steam, and power of minimum 1 MW capacity grid interfaced.

The potential of Biomass power in the country has been estimated at

about 19,500 MW including surplus power generation potential of around 3,500 MW from bagasse based cogeneration from existing sugar mills in the country. So far, a total capacity of 222 MW biomass based power generating systems have been installed in the country. Projects of capacity of 332 MW are under installation. Fourteen States have announced their policies covering buy-back, wheeling and banking of generated electricity by the State Electricity Boards.

SOLAR PHOTOVOLTAIC POWER

The Ministry is implementing a programme to install SPV power projects of capacity 25-100 KW for two niche applications: (i) roof-top systems on public buildings to demonstrate peak load saving applications in major urban centres, and (ii) distributed grid T&D support systems in remote rural areas at tail-end grid sections. Seventeen projects of 1,165 KW total capacity have so far been installed. Eight grid incentives SPV projects of aggregate capacity 500 KW are under installation in different parts of the country.

SOLAR THERMAL POWER

It is proposed to install a 140 MW integrated solar combined cycle power plant including a 35 MW solar thermal system at village Mathania, in Jodhpur district, Rajasthan. This power plant is to be funded by the Government of India, the State Government, the Global Environment Facility and the Government of Germany through KFW. The Government of India has accorded approval of the project in February 2000.

SMALL HYDRO POWER

The potential of small hydro power in the country has been assessed at about 10,000 MW. By the end of March 2000, a total of 217 MW small hydro projects up to individual capacity of 3 MW have been installed and projects of over 131 MW are under construction. Thirteen potential States have announced their policies for inviting private sector to set up small hydro power projects. The Ministry of Non-Conventional Energy Sources has been given the responsibility of small hydro projects up to 25 MW. The small hydro projects are also being installed through community participation under the UNDP/GEF hilly hydro project and by promoting portable micro hydel sets. Renovation and modernisation of old small hydro projects and upgradation of water mills have also been taken up under the programme. To promote the small hydro programme in the country an apex technical institution namely Alternate Hydro Energy Centre, has been in existence at the University of Roorkee for over a decade.

BIOMASS PROGRAMME

Under the biomass gasification programme, biomass gasifiers have been developed for generating thermal energy for industrial applications, for water pumping and also for power generation up to 500 KW capacity. These gasifiers make use of wood chips and other biomass. Biomass gasifiers of total capacity of 34 MW have so far been installed.

Under the briquetting programme, agricultural and forest residues, are being utilised for making briquettes.

ENERGY FROM URBAN AND INDUSTRIAL WASTES

The research projects sponsored by the Ministry have contributed in the development of technologies for processing and treatment of various wastes like municipal wastes, vegetable market wastes, wastes from leather industry, distilleries, sugar mills, pulp and paper mills, etc., which are readily available for adoption. Realising the importance of treatment of wastes and the potential for recovery of energy, the Ministry has been implementing a National Programme on 'Energy Recovery from Urban, Municipal and Industrial Wastes' since 1995 promoting the adoption of appropriate technologies as a means of improving waste management practices in the country.

A National Bio-Energy Board (NBB) has been set up in the Ministry as an apex body under the Chairmanship of Secretary, MNES, for providing policy guidance and direction for execution of a UNDP/GEF assisted project on "Development of high rate biomethanation processes" and for development of bio-energy sector in the country.

NEW TECHNOLOGIES

The Ministry of Non-Conventional Energy Sources (MNES) has been supporting projects for research, development and promotion of new technologies/devices, namely, fuel cells, hydrogen energy, electric vehicles, geothermal energy and ocean energy. Several research and academic institutions, universities, national laboratories and industries are being involved in the research, development and demonstration projects. These efforts have led to the development of basic infrastructure, product/technologies and trained personnel.

Fuel Cells: Hydrogen is the primary fuel for fuel cells. Because of modular nature, fuel cells are ideally suited for distributed power generation. Small fuel cell power plants developed can be used for power generation, industrial, residential and transport applications. A fuel cell vehicle is being run for demonstration and for generating operational experience in field conditions. A PDF project on Fuel Cell Bus Development in India has been taken up through BHEL, Hyderabad, with UNDP/GEF assistance. Efforts being made are expected to help in achieving commercialisation of fuel cell systems in the country.

Hydrogen Energy : A number of R&D projects on production, storage and use of hydrogen as a fuel are currently under implementation at many institutions in the country. Hydrogen-based small power generating sets, two wheelers and catalytic burners for domestic and industrial applications have also been developed and demonstrated.

Electric Vehicles : Electric vehicles (Evs) can be powered by rechar-

geable batteries and fuel cells. R&D projects are being taken up for Evs and related aspects. MiMH and lithium ion batteries and fuel cells especially for Evs are being developed. Subsidy is being provided under the demonstration programme on battery operated vehicles (BOVs) through nodal agencies and departments in the States and Union Territories.

Geothermal Energy: Use of geothermal energy has been demonstrated for small scale power generation and thermal applications. Geothermal potential for direct heat applications and also for power generation is being assessed. Attempts are being made to develop suitable sites for utilisation of geothermal energy for power generation and other applications. About 340 geothermal hot springs have been identified throughout the country.

Ocean Energy : The Ocean acts as a natural collector of solar energy. The temperature gradients, waves and tides contained by ocean can be used to generate electricity in an environment-friendly manner. However, with the present technological development, only tides can be harnessed for large-scale development. A detailed project report is being prepared for the establishment of a 3 MW mini-tidal power project in Durgaduani Creek of Sunderbans area in West Bengal. A status report on wave energy technologies and thrust areas for further research is being prepared through M/s MECON Limited, Bangalore.

The Ministry has established the following institutions for technology development and application of various renewable energy sources: (a) **Solar Energy Centre:** This is an apex institution dedicated to research development, testing and certification, and promotion of solar energy technology in India. The Centre functions from its own campus on the Gurgaon-Faridabad road at Gwal Pahari (Haryana). It functions as the national body for the testing and certification of solar energy products. The Centre coordinates the cooperation in the field of solar energy among the Group of 15 (G-15) developing countries and participates in other international activities; (b) **Sardar Swaran Singh National Institute of Renewable Energy :** An apex R&D institution Sardar Swaran Singh National Institute of Renewable Energy (SSS NIRE), an autonomous registered society has been established near Jalandhar in Punjab. The SSS NIRE will act as the technical focal point for conducting state-of-the-art R&D in renewable energy and developmental activities in all the areas relating to non-conventional/renewable energy sources including human resource development at all levels, post-doctoral research and research leading to commercialisation or renewable energy technologies; and (c) **Centre for Wind Energy Technology (C-WET) :** It has been established, as an autonomous body (registered society), at Chennai which will serve as the technical focal point for wind power development in India, with the objectives of promoting and accelerating the utilisation of wind power and supporting the growing wind power sector in the country. In addition, nine regional offices have been set up at Ahmedabad, Bhubaneswar, Chandigarh, Chennai, Bhopal, Guwahati, Hyderabad, Lucknow and Patna.

PUBLIC SECTOR UNDERTAKING

In order to provide concessional financial support to the renewable energy sector, the Ministry has set up under its fold a financial institution, the Indian Renewable Energy Development Agency Limited (IREDA), as the only agency of its kind in the world. Established in March 1987, as a public-sector enterprise with the main objective of administering a revolving fund to promote, develop and finance NRSE technologies, IREDA has an authorised share capital of Rs 200 crore and a paid-up share capital of Rs 196.35 crore as on 31 March 2000. Its cumulative loan sanctions for 1,302 projects at the end of March 2000 were about Rs 3,547.91 crore and the corresponding disbursements are around Rs 1,546.11 crore. The sanctioned projects have an installed capacity equivalent of about 1,300 MW and will, in addition, be saving/conserving energy. The projects already commissioned have started generating electricity and saving energy on an annual basis.

NEW THRUST TO RENEWABLE ENERGY PROGRAMMES

Major policy initiatives taken to encourage private/foreign direct investment to tap energy from renewable energy sources include provision of fiscal and financial incentives under a wide range of programmes being implemented by the Ministry, and simplification of procedures for private investment, including foreign direct investment in renewable energy projects. The fiscal incentives provided for this purpose include 100 per cent depreciation in the first year of the installation of the project, exemption from excise duty and sales tax and concessional customs duty on the import of material, component and equipment used in renewable energy projects. In addition, the Government provides financial incentives, such as interest subsidy and capital subsidy from the Ministry and soft loans from IREDA. Fourteen States have so far announced policies in respect of various renewable energy sources.

At the end of the Eleventh Five-Year Plan, in the year 2012, about 6 per cent of the total installed power-generating capacity in the country is likely to be based on renewables. A comprehensive renewable energy policy is being prepared for accelerated thrust to the development of this sector. The main objectives of the policy are : (i) to meet the minimum rural energy needs; (ii) to provide decentralised/off-grid energy supply for agriculture, industry, commercial and household sectors in rural and urban areas, and (iii) to generate and supply grid quality power.

OIL AND NATURAL GAS

CRUDE OIL PRODUCTION

ONGC and OIL, the two national oil companies, and a few private and joint venture companies are engaged in exploration and production of oil and natural gas in the country. Crude oil production in the country during the year 1999-2000 was approximately 31.97 MMT against the target of 33.050 MMT. The production was affected due to less than adequate response from

thermal Enhanced Oil Recovery (EOR) schemes in heavy oil belt of Mehsana, increase in water cut in Gandhar oil field and Heera oil field, environmental constraints in north-eastern region and some unanticipated geological surprises in certain areas of oilfields of Western offshore. Several steps have been taken to arrest this trend. These include maintenance of reservoirs health through workover operation, implementation of specialisation technology and EOR schemes, stimulation of wells and 3D seismic surveys for better reservoir delineation, adoption of specialised technology such as ERD, horizontal drain hole drilling, scale removal treatment jobs and long drift side tracking of wells.

IMPORT OF CRUDE OIL AND PETROLEUM PRODUCTS

The gross import of crude oil and petroleum products (excluding imports by private and parallel marketers) during the year 1999-2000 was 58.06 MMT valued at Rs 41,814 crore as against 58.588 MMT valued at Rs 24,713 crore imported during the last year. The net import of crude oil and petroleum products during 1999-2000 was 57.16 MMT valued at Rs 41,181 crore as against 57.19 MMT valued at Rs 23,857 crore during 1998-99.

NATURAL GAS

Production of natural gas in 1999-2000 was 28 445 billion cubic metres (BCM) as compared to 27 428 BCM in 1998-99. The utilisation of natural gas in 1999-2000 was 26 885 BCM as compared to 25 716 BCM in 1998-99. The balance recoverable reserves as on 1 April 2000 were 647 BCM.

EXPLORATION AND DEVELOPMENT OF FIELDS

The Government had approved New Exploration Licensing Policy (NELP) with a view to provide thrust to the exploration efforts in the country to increase availability of hydrocarbons. Bids for 48 blocks (10 onlands+26 shallow water offshore+10 deep water blocks) were invited under NELP in January 1999. By the bid closing date of 18 August 1999, a total of 45 bids for 27 blocks (4 onshore+16 shallow water offshore+7 deep water offshore) had been received. The Government in January 2000, had approved award of 25 blocks (2 onshore+16 shallow water offshore+7 deep water offshore) and bids for two onshore blocks were rejected as these were found non-responsive.

The contracts for 21 blocks under NELP and for 3 blocks from previous exploration bidding round were signed on 12 April 2000. Award and signing of contracts under NELP was done speedily and this was a vast improvement in award and in signing of contracts as compared to the previous rounds. Contract for one more block with Gazprom Russian and GAIL was signed during the visit of the Russian President and in his presence on 3 October 2000. A total of about US\$247 million (approximately Rs 1,100 crore) expenditure will be made in the first exploration phase of exploration programme, which is the minimum committed work programme, and further investments would depend on the result of first exploration phase. With the signing of PSCs for 26 blocks as above, PSCs for a total of 49 exploration blocks have been signed as against award of 60 blocks under various rounds.

of offer of blocks since 1991. Matter in respect of seven awarded blocks has been closed.

The Government of India has been inviting offers from Indian and foreign companies for development of discovered oil and gas fields as well as for exploration of oil and gas in various blocks in India. Against the offer of discovered oil fields made in August 1992, contracts for development of five medium sized fields and 13 small sized fields have been signed. The Government has also approved negotiation and finalisation of contracts for the 12 discovered fields, which were awarded in 1996. The contract negotiation for these fields are underway and are expected to be finalised shortly.

The Government of India has also announced the policy for exploration and exploitation of Coal Bed Methane (CBM), under which the blocks would be offered to companies. So far, eight blocks have been identified in the States of Bihar, West Bengal and Madhya Pradesh. Bids are expected to be invited during the year. The CBM reserve base can be known only after exploration and commercial viability of reserves of CBM can be established thereafter. Exploration and exploitation of CBM will help in bridging the gap between demand and supply of natural gas, current demand for natural gas being about 89 million cubic metre per day as against the domestic availability of 65 million cubic metre per day.

REFINING

India has witnessed a spectacular growth in refining sector in the recent past. Today, there are 17 refineries in the country, 15 in public sector, one in joint sector and one in private sector with an installed capacity of 112.54 million metric tonnes per annum (MMTPA). Out of the 15 PSU refineries, seven are owned by Indian Oil Corporation Limited (IOCL), while the other eight are owned by Hindustan Petroleum Corporation Limited (HPCL), Chennai Petroleum Corporation Limited (CPCIL-2) (formerly Madras Refineries Limited) and one each by Bharat Petroleum Corporation Limited (BPCL), Kochi Refineries Limited (KRI) (formerly Cochin Refineries Limited), Bongaon Refinery & Petrochemicals Limited (BREL) and Numaligarh Refinery Limited (NRI). One refinery in joint sector is the 9.69 million tonnes capacity Mangalore Refinery & Petrochemicals Limited (MRPL). During 1999-2000, one private sector refinery of Reliance Petroleum Limited was commissioned with an installed capacity of 27 MMTPA.

As per current outlook, refining capacity is indicated to be more than double from 62.24 MMTPA at the beginning of Ninth Plan to 129.04 MMTPA by the terminal year of Ninth Plan, i.e. by 2001-2002. To encourage the speedy implementation of additional refining capacity in the country, petroleum sector has been delicensed from June 1998 and phased dismantling of AEM has been started with effect from April 1998.

LPG MARKETING BY PSUs

The customer population of LPG in the country was about 540 lakh as on

1 October 2000. The Government had decided to release one crore domestic LPG connections during the calendar year 2000. This step will make the country to liquidate the waiting list registered with the LPG distributors of Public Sector Oil Companies as on 1 December 1999. At present LPG connections are available across the counter on demand. Public Sector Oil Companies have released about 99 lakh LPG (domestic) connections during the period January-September 2000 and have liquidated all the waiting list registered with the LPG distributors.

PARALLEL MARKETING OF LPG

In February 1993 the Government introduced the parallel marketing of LPG and kerosene by Parallel Marketeers in order to increase the availability of these products. Parallel Marketeers are free to import and sell these products at market determined prices with their own distribution network after obtaining the valid rating certificate issued by the notified agencies. Cumulatively, up to 30 September 2000, 114 parties have imported about 6,079.9 TMT of SKO and 24 parties have imported about 984.79 TMT of LPG.

GAS AUTHORITY OF INDIA LIMITED

The Gas Authority of India Limited (GAIL) was incorporated in 1984 for handling post-exploration activities relating to transportation, processing distribution and marketing of natural gas. The company was assigned the priority task of setting up the cross-country HBJ pipeline. Presently, GAIL is the largest company in India for marketing natural gas. It operates over 4,000 km of pipelines in the country and supplies gas to power plants for generation of about 5,000 MW of power and to the fertilizer sector for production of over 10 MMTPA of urea. It supplies about 60 MMSCMD of gas to about 500 industrial units located in different parts of the country.

GAIL is operating six LPG recovery plants at Vijapur (Phase I & II in Madhya Pradesh), Vaghodia (Gujarat), Lakwa (Assam), Usar (Maharashtra) and Auraiya (U.P.). The total installed capacity of these LPG recovery plants is 9,61,750 MTPA. The company is setting up another gas processing complex at Gandhar in Gujarat involving a capital expenditure of Rs 361 crore. GAIL has also set up a world class petrochemical complex with polyethylene production capacity of 2,60,000 TPA at Pata in Uttar Pradesh. GAIL has formed two joint-venture companies, namely, Mahanagar Gas Limited with M/s British Gas, U.K. and Indraprastha Gas Limited with M/s Bharat Petroleum Corporation Limited for implementation of city gas distribution projects in Mumbai and Delhi respectively. The company is implementing a 1,246 km long LPG pipeline project to transport LPG from Kandla/Jamnagar in Gujarat to Loni in U.P. via Delhi. The company proposes to lay two more LPG pipelines in the south. While the first one will be a 600 km long pipeline from Vizag to Secunderabad involving an estimated expenditure of Rs 502 crore, the second one will be a 710 km long pipeline from Mangalore to Coimbatore via Mysore involving a capital expenditure of Rs 625 crore. Both the projects are expected to be completed within 36 months of their approval.

The company has also signed a joint cooperation agreement with TOTAL and Tata Electric Companies for setting up of an LNG terminal at Trombay. The project has already received clearance from the Ministry of Surface Transport for setting up of multi-fuel jetty at Trombay. GAIL is also contemplating to enter into the telecom sector and to participate in gas-based power projects in Dahej (Gujarat), Guna (M.P.) and Dholpur (Rajasthan).

LUBRIZOL INDIA LIMITED

Lubrizol India Limited (LIL), a public sector undertaking was incorporated in 1966 in collaboration with the Lubrizol Corporation (USA) under the Companies Act. The Government of India was holding 60 per cent of the subscribed equity capital of the company and the Lubrizol Corporation, USA 40 per cent thereof. On 31 March 2000, the Government of India transferred its shares to Indian Oil Corporation Limited who in turn transferred 10 per cent equity share capital to Lubrizol Corporation, USA. As a result of this, LIL has become a joint-venture company of IOC and Lubrizol Corporation, USA. Consequent upon restructuring of LIL, the company is no longer a public sector undertaking.

ENGINEERS INDIA LIMITED

Engineers India Limited (EIL), a public sector undertaking was set up in 1965. It is the leading design and engineering company in the field of petroleum refineries, petrochemicals, oil and gas processing, offshore structures and platforms, fertilizers, metallurgy and power. The services provided by EIL include design, engineering, procurement, construction management, commissioning assistance and project management besides specialist services in the areas of environmental engineering, heat and mass transfer equipment, information technology, material and maintenance risk analysis, energy conservation and advance control and optimisation. It also undertakes lumpsum turnkey projects in its fields of operations. It has to its credit over 4,000 assignments including 275 major projects. EIL has exported its services to several countries including Algeria, Bahrain, Iran, Iraq, Korea, Kuwait, Malaysia, Norway, Qatar, Saudi Arabia, Sri Lanka, UAE and Vietnam. Engineers India has been a profit making company all along. The (unaudited) turnover of EIL for 1999-2000 was Rs 615.47 crore. The company's turnover has grown roughly eight fold in the last ten years.

PUBLIC SECTOR OIL COMPANIES

The marketing of Petroleum products in the country is being done by four major public sector oil companies, namely, Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited, Hindustan Petroleum Corporation Limited and IBP Company Limited. As on 1 April 2000, there were 17,739 MS/HSD retail outlets, 6,402 kerosene/light diesel oil dealers and 6,161 LPG distributors to make available MS, HSD, LDO, Kerosene and LPG to the consumers across the country. Besides the country's retail network, the requirement of petroleum products of the industrial units are also met by the

public sector oil companies through direct supplies to them.

INDIAN OIL CORPORATION

The Indian Oil Corporation (IOC) was set up in September 1964 by amalgamating Indian Refinery Limited with Indian Oil Company Limited. The Corporation has four divisions, namely, the Marketing Division with headquarters at Mumbai, the Refinery Division with headquarters at New Delhi, the Pipeline Division with headquarters at Noida (UP) and Assam Oil Division with headquarters at Digboi. The Refinery and Pipeline Division function as bifurcated divisions. IOC has a Research and Development Centre at Faridabad. The Centre provides technical services to customers and is engaged in development of sophisticated lubricating oils. It is actively working on possibilities of production and utilisation of viable substitute fuels. IOC also has wholly-owned subsidiary called Indian Oil Blending Limited (IOBL) which is engaged in blending lubricants.

BHARAT PETROLEUM CORPORATION LIMITED

Following the Government's acquisition of two Burmah-Shell companies in January 1976, the name of Burmah-Shell Refineries Limited was changed to Bharat Refineries Limited from 12 February 1976. Being an integrated refining and marketing company, the name of the company was changed to Bharat Petroleum Corporation Limited (BPCL) from 1 August 1977. The company is engaged in processing of crude and marketing of petroleum products. The company has also diversified into the manufacture and marketing of petrochemical feed stock.

HINDUSTAN PETROLEUM CORPORATION LIMITED

The Hindustan Petroleum Corporation Limited (HPCL) was set up on 15 July 1974 by acquiring assets in India of Esso Eastern Inc., USA and became a wholly government-owned company. On 21 December 1976, the Government acquired Caltex Oil Refining (India) and merged it with HPCL. The main activities of HPCL are refining of crude oil, manufacturing lubricating base oil, manufacturing and blending of lubricants, grease and petroleum products and related automotive accessories all over the country and marketing of petroleum products including LPG.

IBP COMPANY LIMITED

IBP Company Limited which became a subsidiary of IOC in 1970 turned into an independent government company in 1972. IBP Company Limited has a controlling stake of 61.8 per cent in its subsidiary Balmer Lawrie and Company Limited. IBP Company Limited has three business groups: Business Group (Petroleum), Business Group (Chemicals) and Business Group (Engineering). Business Group (Petroleum) is engaged in storage, distribution and marketing of MS, HSD, LDO, FO/LSHF and blending/marketing of Automotive Lubes and Greases and Industrial Lubes. Business Group (Chemicals) is engaged in the manufacture and marketing of Slurry/Emulsion

Explosives-Cartridge and Site Mixed Detonating Fuse and Cast boosters, etc. Business Group (Engineering) is engaged in the manufacture and marketing of Cryo-vessels of international standards for industrial and biological applications. The Company has four joint-venture companies, namely, Numaligarh Refinery Limited, IBP Caltex Limited, Indian Oiltanking Limited and Petronet India Limited. IBP has also made an entry into the business of marketing of Liquefied Petroleum Gas (LPG) in bulk. Retail marketing of LPG will commence after the commissioning of new LPG distributorships.

CONSERVATION OF PETROLEUM PRODUCTS AND ENVIRONMENTAL PROTECTION

Despite the discovery of new sources of unconventional energy, petroleum remains the primary energy source in India, with its consumption increasing at a very steep rate from 3.5 MMT in 1950-51 to 90.80 MMT in 1998-99. It is expected to reach 130 MMT in 2001-2002. Our present indigenous production is only 33 MMT, which is about 35 per cent of our annual requirement. Therefore the Government attaches high priority to minimising the gap between indigenous production and consumption of petroleum products by consistently focusing on the conservation of petroleum products to reduce the heavy foreign exchange outflow.

A number of studies have been initiated to evaluate the effectiveness of alternative fuels for automotive propulsion. These have received fresh impetus through the Supreme Court directives of July 1998 and September 1998. Efforts to adopt Compressed Natural Gas (CNG) for public transport are in full swing with expansion of the necessary infrastructure being undertaken by the Gas Authority of India Limited in Delhi and Mumbai. The use of LPG as auto-fuel will be permitted after necessary legislation is enacted. Pilot projects to consider other bio-fuels like Ethanol and Methanol, Propane, DME, etc., are also on, while other R&D efforts are continuing in related areas.

In pursuance of the need for pollution abatement, the Ministry of Petroleum and Natural Gas has taken a number of steps like introduction of improved quality fuels like lead-free petrol, low benzene petrol, low/ultra-low sulphur diesel, CNG, etc. Pre-mixed lubricating oil-cum-petrol only is being dispensed throughout the NCT of Delhi from December 1998 while adoption of superior specification has been mandated from April 1999 to facilitate reduction in visible smoke from 2-wheelers.

The Working Group set up to study the oil and gas conservation has made several recommendations to control sectoral consumption and these are being examined for adoption. Expansion of the CNG infra-structural network in the National Capital as well as in Mumbai is also in progress. CNG is also being dispensed at Vadodara, Surat and Ankleshwar in Gujarat.

There is also a 10-point programme for preservation of the Taj Trapezium Zone (TTZ), with the objective of reducing the emissions in the area. A task

force constituted by the Petroleum Ministry in 1995 periodically reviews the progress achieved in the implementation of the programme. These include supply of Natural Gas to the Mathura Refinery; setting up of a hydro-cracker unit in the Refinery and intensification of the refinery's environmental management through tree plantation, etc., supply of LPG to all households in the TTZ, supply of Low Sulphur Diesel, Low Lead Petrol and CNG for vehicles, supply of Natural Gas to and preferential allocation of LPG for industrial units.

20 Industry

INDIA started her quest for industrial development after independence in 1947. The Industrial Policy Resolution of 1948 marked the beginning of the evolution of the Indian Industrial Policy. The resolution not only defined the broad contours of the policy; it delineated the role of the State in industrial development both as an entrepreneur and as an authority. Successive policy resolutions also reiterated this basic tilt in favour of the public sector. The Industrial Policy Resolution of 1956 gave the public sector a strategic role in the economy. It categorised industries which would be the exclusive responsibility of the State or would progressively come under State control and others. Earmarking the pre-eminent position of the public sector, it envisaged private sector co-existing with the State and thus attempted to give the policy framework flexibility.

The Industrial Policy initiatives undertaken by the Government since July 1991 have been designed to build on the past industrial achievements and to accelerate the process of making Indian industry internationally competitive. It recognises the strength and maturity of the industry and attempts to provide the competitive stimulus for higher growth. The thrust of these initiatives has been to increase the domestic and external competition through extensive application of market mechanisms and facilitating forging of dynamic relationships with foreign investors and suppliers of technology. The process of reform has been continuous.

STRUCTURAL REFORMS

INDUSTRIAL LICENSING POLICY

With the introduction of New Industrial Policy (NIP) in 1991, a substantial programme of deregulation has been undertaken. Industrial licensing has been abolished for all items except for a short list of six industries related to security, strategic or environmental concerns. They are : (i) distillation and brewing of alcoholic drinks; (ii) cigars and cigarettes of tobacco and manufactured tobacco substitutes; (iii) electronic aerospace and defence equipment; all types; (iv) industrial explosives including detonating fuses, safety fuses, gun powder, nitro-cellulose and matches; (v) hazardous chemicals; and (vi) drugs and pharmaceuticals (according to the modified Drug Policy 1994, as amended).

The Monopolies and Restrictive Trade Practices Act (MRTP Act) has been amended in order to eliminate the need to seek prior Government approval for expansion of the present industrial units and establishment of new industries by large companies. The system of Phased Manufacturing

Programme, which was designed to enforce progressively greater degree of local content, has been abolished. Industrial location is discouraged only in large cities because of environmental reasons.

A significant number of industries had earlier been reserved for the public sector. Now the areas reserved for the public sector are : (a) arms and ammunition and allied items of defence equipment, defence aircraft and warships; (b) atomic energy; (c) the substances specified in the schedule to the notification of the Government of India in the Department of Atomic Energy No. S.O.212(E) dated 15 March 1995 and (d) railway transport. Even in these areas, private sector participation can be invited on a discretionary basis.

Under NIP, existing units will be permitted to manufacture any new article without additional investment if the article is not otherwise subjected to compulsory licensing. This facility would be available notwithstanding any locational conditions. In respect of new projects for manufacture of articles not covered under compulsory licensing or their substantial expansion, the only requirement would be that the industrial undertaking shall file a memorandum in the prescribed form to the Secretariat for Industrial Assistance (SIA) in the Department of Industrial Policy and Promotion.

The Government continues to provide protection to the small-scale sector, *inter alia*, through the policy of reserving items for exclusive manufacture in the small-scale sector. All industrial undertakings other than the small-scale industrial undertakings engaged in the manufacture of items reserved for exclusive manufacture in the sector are required to obtain an industrial licence and undertake an export obligation of 50 per cent of the annual production. Investment limit for small-scale and ancillary industrial undertakings has been reduced from Rs three crore to Rs one crore with effect from 24 December 1999. However, the investment limit for tiny units would remain at the level of Rs 25 lakh.

FOREIGN DIRECT INVESTMENT

The Government is committed to promoting accelerated growth in the industrial sector. The role of Foreign Direct Investment (FDI) as a means to support domestic investment for achieving a higher level of economic development is well recognised. FDI benefits domestic industry as well as the Indian consumer by providing opportunities for technological upgradation, access to global managerial skills and practices, optimal utilisation of human and natural resources, making Indian industry internationally competitive, opening up export markets, providing backward and forward linkages and access to international quality goods and services.

MAJOR INITIATIVES

In order to further facilitate Indian industry to engage unhindered in various activities, the Government has permitted, except for a negative list, access to the automatic route for Foreign Direct Investment. The automatic route means

simply that foreign investors need to inform the Reserve Bank of India within 30 days of bringing in their investment, and again within 30 days of issuing any shares. The negative list includes : (i) Proposals that require an industrial licence because the activity is licensable under the Industries (Development and Regulation) Act, 1951, cases where foreign investment is more than 24 per cent in the equity capital of units manufacturing items reserved for small scale industries, and all activities that require an industrial licence in terms of the locational policy notified by Government under the Industrial Policy of 1991; (ii) Proposals in which the foreign collaborator has a previous venture/tieup in India; (iii) Proposals relating to acquisition of shares in an existing Indian company in favour of a foreign Non-Resident Indian (NRI)/Overseas Corporate Body (OCB) investor; and (iv) Proposals falling outside notified sectoral policy/caps or under sectors in which FDI is not permitted and/or whenever any investor chooses to make an application to the Foreign Investment Promotion Board (FIPB) and not to avail of the automatic route.

Minimum capitalisation norms in respect of non-fund based Non-Banking Financial Companies activities have been relaxed to US \$ 0.5 million for activities which are not fund based and only advisory or consultancy based in nature, such as : (i) investment advisory service; (ii) financial consultancy; (iii) credit reference agencies; (iv) credit rating agencies; (v) forex broking; and (vi) money changing business. Non-Banking Financial Companies may hold foreign equity up to 100 per cent if these are holding companies. However, their subsidiaries, which are operating companies, may hold only up to 75 per cent foreign equity. To facilitate the setting up and operation of such subsidiaries, the Government has further allowed holding companies with a minimum capital of US \$ 50 million, to set-up 100 per cent down-stream subsidiaries to undertake specific Non-Banking Financial activities with minimum capital of US \$ 5 million. Such a subsidiary, however, would be required to disinvest its equity to the minimum extent of 25 per cent through a public offering only, within a period of three years.

The time frame for consideration of FDI proposals has been reduced from six weeks to 30 days for communicating Government decision. The requirement for foreign-owned Indian-holding companies to obtain prior and specific approval of FIPB/Government for down stream investment in priority activities has been dispensed with subject to specific conditions. Foreign financial/technical collaborations with past/existing joint ventures are required to seek FIPB/Government approval to set up new joint ventures or wholly-owned subsidiaries in the same or allied activities. The policy of the Government is to prohibit fresh foreign investment for the same activities that have been permitted earlier. The Foreign Investment Implementation Authority (FIIA) has been set up to provide a single-point interface between foreign investors and the Government machinery both at the Central and State level. The objectives of this authority are to remove procedural delays in the setting up of the project and to create an atmosphere congenial to FDI.

The Government has further reviewed the existing sectoral policy and

sectoral equity cap for FDI/NRI/OCB investment, and allowed : (i) up to 100 per cent FDI for e-commerce activities, subject to certain conditions; (ii) removed the condition of dividend balancing which was applicable to 22 specified consumer goods industries; (iii) removed the upper limit of FDI of Rs 1,500 crore in respect of project relating to electric generation, transmission and distribution (other than atomic reactor power plant) under the automatic route and (iv) increased the level of FDI in oil refining sector under automatic route from existing 49 per cent to 100 per cent.

FOREIGN DIRECT INVESTMENT—APPROVAL AND INFLOW

(Rs in crore)

Year (January- December)	Approvals involving foreign investment	FDI approved	Inflow of FDI	Realisation rate of FDI approvals (per cent)
1991	289	534.11	351.43	65.8
1992	692	3,887.54	675.18	17.4
1993	785	8,859.33	1,786.71	20.2
1994	1,062	14,187.19	3,289.28	23.2
1995	1,355	32,071.72	6,820.03	21.3
1996	1,559	36,146.81	10,389.20	28.7
1997	1,665	54,891.35	16,425.33	29.9
1998	1,191	30,813.50	13,339.84	43.3
1999	1,726	28,366.53	16,867.79	59.46
2000 (Jan-April)	608	6,412.44	5,907.53	92.14
Total	10,932	2,16,170.52	75,852.32	35.09

CURRENT INDUSTRIAL PRODUCTION

As per the Quick Estimate of the Index of Industrial Production, the overall growth of Industrial Production during 1999-2000 was 8 per cent. Intermediate Goods have recorded a growth of 15 per cent. Consumer-durable goods have recorded a growth of 12.2 per cent over 1998-99. Consumer non-durables have recorded a growth of 4 per cent during 1999-2000 over the corresponding period last year. Overall growth rate of the consumer goods increased to 5.7 per cent from 2.4 per cent recorded in 1998-99. Within the manufacturing sector twelve categories recorded positive growth of which five groups have achieved double digit growth rate. These are wool, silk and man-made fibre textiles, leather and fur products, basic chemicals and chemical products

(except products of petroleum and coal), non-metallic mineral products and machinery and equipment other than transport equipment.

Five industry groups namely, jute and other vegetable fibre textiles (except cotton), wood and wood products, furniture and fixtures, rubber, plastic, petroleum and coal products, metal products and parts, except machinery and equipment have shown negative growth.

While the overall industrial growth rate was 8 per cent the core infrastructure sectors achieved an average growth rate of 8.5 per cent during the financial year 1999-2000.

The performance of six infrastructure industries is given below :

Year-wise Growth Rates							
S.No.	Industry	Weight	1995-96	1996-97	1997-98	1998-99	1999-2000
1	Electricity	10.1690	8.3	3.8	6.6	6.6	7.1
2	Coal	3.2216	6.4	5.7	3.6	-2.0	3.3
3	Steel	5.1278	21.9	5.8	6.3	1.3	12.5
4	Crude Petroleum	4.1721	7.1	-4.7	2.9	-3.4	-2.2
5	Petroleum Refinery Products	2.0021	3.9	7.0	3.7	5.2	25.3
6	Cement	1.9891	11.5	9.6	9.1	5.7	14.0
	Overall	26.6817	10.5	3.0	5.6	2.9	8.5

SECTORAL POLICIES

Power : Private sector participation is permitted. Foreign equity up to 100 per cent is permitted under the automatic route for the projects relating to electricity generation, transmission and distribution. The categories which would qualify for such automatic route are hydro-electric power plants, coal/lignite based thermal power plants and oil/gas based thermal power plants. Relaxation of 40 per cent cap for debt exposure by Indian Financial Institutions (IFIs) has been provided. Legislation on energy conservation and setting up of Bureau of Energy Efficiency has been introduced. To facilitate setting up of large sized thermal power plants in the country, revised mega power policy has been introduced. Power Trading Corporation (PTC) has been incorporated, for the purpose of buying power from mega power projects under long-term Power Purchase Agreements (PPAs) and selling the power to beneficiary states also under long-term PPAs. A Crisis Resolution Group (CRG) in the Ministry of Power has been set up with effect from 1 January 1999 with the Union Minister of Power as Chairperson. After the recent amendment in Electricity

Laws, transmission activity has been given an independent status and the concept of Central and State transmission utilities has been introduced. The limit of capital expenditure of the schemes beyond which concurrence of Central Electricity Authority is required, has been enhanced.

Telecom : Private sector participation is permitted. No foreign equity cap is applicable to manufacturing activities. Foreign equity up to 49 per cent is permitted for investment in Basic, Cellular Mobile, Paging, Value Added Services and Global Mobile Personal Communications by satellite on an automatic basis. Concessional import duties for import of equipment by telecom service projects (including cellular, basic, internet, etc.) are available. Amendment of the Telecom Regulatory Authority of India (TRAI) Act in year 2000 has paved the way for reconstituting of TRAI and creation of the Telecom Dispute Settlement and Appellate Tribunal (TDSAT). It has been empowered to adjudicate on disputes between the licensor and licensee; between two or more service providers and a group of customers. It shall also be the appellate authority in respect of any directions, decisions and orders of TRAI.

Roads : Private sector participation including foreign investment participation up to 100 per cent is permitted for the construction and maintenance of roads, highways, vehicular bridges, toll roads and vehicular tunnel. A tax concession has also been provided which may be availed within a period of twelve assessment years. The National Highways Authority of India (NHAI) is permitted to participate in equity in Build Own Transfer (BOT) projects up to 30 per cent. The investors in identified highway projects are permitted to recover investment by way of collection of tolls for specified sections and periods. They are also allowed to develop service and rest-areas along the roads entrusted to them.

Ports : Guidelines for foreign investment in the ports sector have been further liberalised. Automatic route is available for foreign equity participation up to 100 per cent in construction and maintenance of ports and harbours. In addition to this, automatic route is available for foreign equity up to 51 per cent for projects providing supporting services to water transport, such as operation and maintenance of piers and loading and discharging of vessels. The following areas have been identified for participation/investment by the private sector : (a) Leasing out of existing assets of the port; (b) Construction/creation of additional assets; (c) Leasing of equipment for port handling and leasing of floating crafts from the private sector; (d) Pilotage; and (e) Captive facilities for port-based industries. An ordinance has been promulgated for setting up of a traffic authority for major ports under the Major Port Trusts Act, 1963 for port charges applicable to the services provided by the port trusts as well as by a private operator within the major ports.

Civil Aviation : Private sector is allowed to operate scheduled air lines in the domestic sector. In the domestic airlines sector foreign equity up to 40 per cent is permitted. No direct or indirect equity participation by foreign airlines is allowed. Foreign equity up to 100 per cent is allowed by the Non-

Resident Indians (NRIs)/Overseas Corporate Bodies (OCB). In the operation of cargo and chartered flights, open sky policy has been in operation since 1990. Private sector participation is also allowed in airport modernisation, ground services, and aircraft manufacture. Equity from foreign airlines is not allowed in domestic air-transport services either directly or indirectly. Foreign Financial Institutions are allowed to hold equity in the domestic air transport sector provided they do not have foreign airlines as their shareholders.

LIGHT ENGINEERING INDUSTRY

The engineering industry is a distinct sector such as Ball & Roller Bearing Industry, Castings, Steel Forgings Process Control Instruments, Steel Pipes & Tubes, etc. While the trend and pattern of growth determine the productivity and performance parameters of other industries, the production in this industry is derived from the demand emanating from the user industry segment. There has been uneven growth of different segment of light engineering industry but overall it has performed in the liberalised atmosphere. However, vast opportunities are available for both domestic and international investors in most of the areas relating to light engineering industry.

CEMENT INDUSTRY

Cement, an important infrastructure core industry, is one of the most advanced industries in the country. Till about a decade ago, the country was deficient in cement and it had to resort to import in order to fill the gap in supply.

After the complete decontrol of price and distribution in March 1989 and introduction of other policy reforms, cement industry has made rapid strides both in capacity/production and process technology. At present there are 122 large cement plants with an installed capacity of 112.95 million tonnes per annum and more than 300 mini cement plants with a combined estimated capacity of nine million tonnes per annum. The production during 1999-2000 was 100.72 million tonnes (provisional). The cement industry achieved a growth rate of 15 per cent in 1999-2000.

India is producing different varieties of cement like Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC), Portland Blast Furnace Slag Cement (PBFS), Oil Well Cement, White Cement, etc. These different varieties of cement are produced strictly under BIS specifications and the quality is comparable with the best in the world.

The cement industry has kept pace with technological advancement and modernisation. Export of cement was 3.14 million tonnes (provisional) in 1999-2000. Improvement in the quality of Indian Cement has found its ready market in Bangladesh, Indonesia, Malaysia, Nepal, Middle East countries, Burma, Africa and South East Asian countries. In order to meet the increasing trained manpower requirement of the Indian Cement Industry, a Human Resource Development (HRD) Project has been implemented with assistance from World Bank and DANIDA (Danish International Development Agency). Under this Project, four Regional Training Centres have been set up at ACC-

Jamul (MP), Dalmia Cement, Dalmiapuram (Tamil Nadu), J.K. Cement, Nimbahera (Rajasthan) and Gujarat Ambuja, Ambuja Nagar (Gujarat). Up to 31 March 2000, 7,346 persons have been trained in various technical courses.

LEATHER INDUSTRY

Indian leather industry is spread over the organised as well as unorganised sectors. The small scale, cottage and artisan sector account for over 75 per cent of the total production. Though traditionally, the Indian leather industry has been an exporter of tanned hides and skins, it had, in the early seventies, set its sights on becoming a major player in the leather products segments. Over the last 20 years and particularly so in the last ten years, it has become an area of export thrust with footwear having been identified as an area of extreme focus. Exports from the leather sector today account for around four per cent of India's exports. Exports of leather sector went up from Rs 3,036 crore in 1991-92 to Rs 6,956 crore in 1998-99.

The National Leather Development Programme (NLDP) with United Nations Development Programme (UNDP) assistance of about 17 million US dollars has been implemented by the Government for integrated development of the leather industry through the selected institutions/agencies in the country. The response from artisans community and small enterprises has been extremely encouraging towards the programme. The second phase of the programme, the Small Industries Development & Employment Programme in the Leather Sector (SIDE-NLDP) has been started with UNDP assistance in August 1998. It has focus on promoting poverty alleviation and sustained livelihood and building linkages between the organised and unorganised sectors. The present UNDP allocation towards SIDE-NLDP is US \$ 7.15 million for the period from September 1998 to March 2002.

A new Plan scheme, titled Indian Leather Development Programme (ILDP) has been approved under the Ninth Plan. Under ILDP a new scheme namely Tannery Modernisation Scheme has been introduced with effect from 18 January 2000. Under the Scheme, there is a provision to provide 30 per cent of cost of machines required for modernisation as interest free assistance to small scale units with a ceiling of Rs 28 lakh. In case of non-small scale units, the assistance is limited to 20 per cent of cost of machines with a ceiling of Rs 35 lakh.

RUBBER GOODS INDUSTRY

At present, the rubber goods industry comprises 32 tyre units, 220 medium scale units, 5,500 small-scale units and an equal number of units in the tiny sector. It offers direct employment to nearly four lakh people. Annual turnover is over Rs 12,000 crore. The major rubber goods produced by the industry are tyres and tubes of all kinds, surgical gloves, prophylactics, conveyor and vee belts, hose pipes, sports goods, etc. Tyres and tubes constitute the most important segment of this industry. From Rs 10.75 crore in 1985-86, the exports have reached a level of Rs 808 crore in 1998-99 and are targeted at Rs 1,000 crore during 1999-2000.

PAPER INDUSTRY

Paper Industry represents an important segment of the Indian economy. The Industry has witnessed a steady increase in installed capacity and production over the decades. The paper industry in India is primarily using non-conventional raw material, as 62 per cent of the market is catered by paper products manufactured from raw materials like agro-waste, agro-residues and recycled papers. The demand is estimated to be around 54.80 lakh tonnes in 2005-06. The growth rate in paper industry during 1999-2000 is 13.49 per cent.

At present, there are about 515 paper mills (including mills producing newsprint) in the country with an annual installed capacity of about 49 lakh tonnes. Presently, the capacity utilisation in the paper industry is about 70 per cent, as 184 paper mills, particularly small mills are sick and/or lying closed. Some incentives have been provided to the paper industry, particularly to those mills which are based on non-conventional raw material. Paper and paperboard manufactured out of more than 75 per cent non-conventional raw material has been exempted from payment of excise duty up to first clearance of 3,500 mt per annum. Imports of paper and paper products have been growing over the years. Import was 3.05 lakh tonnes in 1997-98 and 2.71 lakh tonnes in 1998-99. About 1,00,000 tonnes of paper has been exported in 1999-2000 mainly to the neighbouring countries.

NEWSPRINT INDUSTRY

Until 1981, National Newsprint and Paper Mills, now known as NEPA Limited which commenced production in 1955, was the only unit in the country manufacturing newsprint. At present, there are 54 mills with an installed capacity of about 10.61 lakh tonnes. Production of newsprint is estimated at 63 lakh tonnes in 1999-2000. To improve production and availability of newsprint, excise duty on newsprint has been removed. Improved duty on wood pulp has been lifted. Import of newsprint is decontrolled and is on OGL.

SOAPS AND DETERGENTS

The soaps and detergents industry has developed both in the small-scale sector and organised sector. Detergents and toilet soaps are delicensed. Ninety per cent of the production of laundry soap is in the small-scale sector. Toilet soap is, however, dominated by the large-scale units. Production of laundry soap, toilet soap and synthetic detergents during 1998-99 has been of the order of 7.5 lakh tonnes, 5 lakh tonnes and 24 lakh tonnes, respectively.

PUBLIC SECTOR

Public Sector has played a pivotal role in the planned economic and industrial development of the country. For the purpose of planning and national accounting, public sector in India includes all activities funded out of Government's budget. Thus, the size of the public sector is, indeed, very large.

It includes government departments and its companies whether in the Central or State sector, irrigation and power projects, railways, post and telegraphs, ordnance factories, and irrigation and other departmental undertakings, banking, insurance, financial and other services. The focus here is, however, on the Central Public Sector Enterprises (CPSEs) established as Government companies or statutory corporations excluding banking units.

At the time of Independence, India was basically an agrarian economy with a weak industrial base, low level of savings and investment and near absence of infrastructure facilities. There existed considerable inequality in income, low level of employment opportunities and serious imbalances. It was, thus obvious that if the country was to speed up its economic growth and maintain it in the long run at a steady level, a big push was required. As such state's intervention in all the sectors of the economy was inevitable because private sector had neither necessary resources in terms of funds, nor the will to undertake risks involved in large and long gestation investments.

There has been appreciable growth in the investment in the public sector over the years. In 1951, the investment in five CPSEs was Rs 29 crore. This increased to Rs 2,21,987 crore in 240 enterprises as on 31 March 1997 and further to Rs 2,30,140 crore in 240 enterprises as on 31 March 1999. Thus during 1998-99, the investment in public sector has increased by Rs 8,153 crore registering an increase of 3.7 per cent. The contribution of CPSEs in the production of coal, lignite and petroleum was about 90 per cent in the country's total production during 1998-99. Over 80 per cent of the country's production of non-ferrous metals, viz., primary lead and zinc was from the Public Sector. The internal resources generated by the public sector enterprises during 1998-99 were Rs 31,301 crore. The PSEs have also been making substantial contribution to augment the resources of Central Government through payment of dividend, interest, corporate taxes, excise duties, etc., thereby helping in mobilization of funds regarding financing needs for planned development of the country. During 1998-99 contribution to the Central Exchequer by the PSEs amounted to Rs 46,925 crore.

The public sector enterprises, as model employers, have always recognised their social responsibilities and have been incurring expenditure on social overheads like education, medical and cultural facilities, etc. Besides providing direct employment to about two million as on 31 March 1999, PSUs incurred gross expenditure amounting to Rs 3,323 crore on township maintenance, administration and social overheads.

The performance of CPSEs have improved significantly since 1991-92 and have shown continuous growth. Some of the important financial parameters from 1991-92 to 1998-99 are given in table 20.1.

TABLE 20.1 : PERFORMANCE OF CENTRAL PUBLIC SECTOR ENTERPRISES

(Rs in crore)

Year	Gross Sales	Gross PBIT	Net Profit	Prov. for Tax	Dividend Payment	Contribution to Central Exchequer	Gross Internal Resource Generation.
1991-92	1,33,906	13,675	2,356	1,647	687	19,264	12,943
1992-93	1,47,266	15,957	3,271	1,805	792	21,657	14,792
1993-94	1,58,049	18,556	4,545	2,110	1,028	21,960	16,676
1994-95	1,87,355	22,630	7,187	2,581	1,436	26,036	19,992
1995-96	2,26,919	27,587	9,574	4,047	2,205	28,673	24,198
1996-97	2,60,735	30,915	10,186	5,192	3,097	39,009	25,554
1997-98	2,75,996	37,212	13,720	5,634	4,073	42,292	31,192
1998-99	3,09,994	39,766	13,235	6,499	5,469	46,925	31,301
Growth in 1998-99 over 1991-92 (per cent)	232	291	562	395	796	244	242

The improvement after liberalisation is not only in absolute amounts but important financial ratios have also improved. The net profit to capital employed has gone up from two per cent in 1991-92 to 4.8 per cent in 1998-99. The return on investment, i.e., profit before interest and tax to capital employed has also gone up from 11.6 per cent in 1991-92 to 14.5 per cent in 1998-99. In 1997, the Government had identified 11 public sector enterprises as *Navratnas* and decided to give enhanced powers to the Boards of Directors of these PSUs to facilitate their becoming global players. These enterprises are BHEL, BPCL, GAIL, HPCL, IOC, IPCL, MTNL, NTPC, ONGC, SAIL and VSNL. The Boards of these *Navratna* enterprises have been professionalised by induction of non-official part-time professional Directors. These 11 PSUs have been delegated substantial enhanced autonomy and operational freedom which include incurring capital expenditure, entering into joint ventures, effecting organisational restructuring, creation and winding up of posts below Board level, to raise capital from the domestic and international markets, to establish financial joint ventures subject to equity investments with special limits. *Navratna* PSUs have earned a net profit of Rs 12,073 crore during 1998-99.

The Government have also granted financial and operational autonomy to some of the other profit making enterprises subject to fulfilling certain conditions. The enterprises are categorised as *Miniratnas*. The enterprises which have made profits continuously for last three years and have earned a net profit of Rs 30 crore or more in one of the three years, with positive

network are categorised as *Miniratnas I*. Category II *Miniratnas* should have made profit for the last three years continuously and should have a positive network. Both these categories of PSEs would enjoy certain autonomy like incurring capital expenditure without Government approval up to Rs 300 crore or equal to their network whichever is lower (for category I *Miniratna* companies) and up to Rs 150 crore or up to 50 per cent of their network whichever is lower (for category II *Miniratna* companies). These enterprises can also enter into joint ventures subject to certain conditions, set up subsidiary companies and overseas offices, enter into technology joint ventures, etc.

It is constant endeavour of the Government to revive/restructure the PSUs in order to improve the performance, productivity and profitability. However, major emphasis had been on the sick and loss making enterprises, which are capable of being revived. The sick industrial enterprises are referred to Board of Industrial & Financial Restructuring (BIFR) under the provisions of Sick Industrial Companies (Special Provision) Act, 1985 for formulating appropriate revival/rehabilitation packages. For other loss making enterprises administrative Ministries/Departments in consultation with management, workers and other experts/consultants take appropriate measures for restructuring of these units.

The CPSUs are involved in manufacturing of goods and rendering services. The performance of PSUs under these groups during 1997-98 and 1998-99 is given in table 20.2 :

TABLE 20.2 : PERFORMANCE OF MANUFACTURING AND SERVICE GROUPS OF ENTERPRISES

(Rs in crore)

Sl No.	Particulars	Manufacturing Sector		Service Sector		Total	
		1998-99	1997-98	1998-99	1997-98	1998-99	1997-98
1	No. of Operating Enterprises	160	161	75	75	235	236
2.	Capital Employed	1,83,074.04	1,70,139.30	90,622.75	83,521.84	2,73,696.79	2,53,661.14
3	Net Worth	1,13,856.68	1,05,682.94	34,162.73	29,380.54	1,48,019.41	1,35,063.48
4.	Turnover/Operating Income	2,41,450.22	2,12,809.77	68,543.57	63,186.36	3,09,993.79	2,75,996.13
5.	Cost of Production/ Services	2,17,789.08	1,87,946.68	63,835.82	62,050.71	2,81,624.90	2,49,997.39
6.	Profit Before Dep Int & tax (PBDIT)	39,200.48	38,620.17	17,331.61	14,447.45	56,532.09	53,067.62
7.	Depreciation	13,197.36	12,748.85	3,568.81	3,106.93	16,766.17	15,855.78
8	Profit Before Interest (PBIT)	26,003.12	25,871.32	13,762.80	11,340.52	39,765.92	37,211.84

9	Interest	12,666.72	11,808.31	7,365.63	6,049.46	20,032.35	17,857.77
10.	Profit Before Tax (PBT)	13,336.40	14,063.01	6,397.17	5,291.06	19,733.57	19,354.07
11	Tax Provisions	4,581.65	4,118.38	1,917.35	1,515.73	6,499.00	5,634.11
12	Net Profit	8,754.75	9,944.63	4,479.82	3,775.33	13,234.57	13,719.96
(a)	Profit of Profit making PSEs	17,059.30	15,751.22	5,449.51	4,528.14	22,508.81	20,279.36
(b)	Loss of Loss Incurring PSEs	8,304.55	5,806.59	969.69	752.81	9,274.24	6,559.40
(c)	No of Profit making PSEs	76	81	51	53	127	134
(d)	No of Loss incurring PSEs	83	79	23	21	106	100
(e)	No. of no profit/loss PSEs	1	1	1	1	2	2
13	Dividend	4,196.36	2,995.91	735.20	612.96	4,931.56	3,608.87
14	Dividend Tax	457.82	402.33	78.77	61.30	536.59	463.63
15	Retained Profit	4,100.57	6,546.39	3,665.85	3,101.07	7,766.42	9,647.46
16	Value added	-	-	-	-	78,764.31	75,682.97
17	Export earning	-	-	-	-	18,827.00	20,483.00
18	Average Annual per capita emoluments (in Rs.)	-	-	-	-	1,42,922.00	1,29,582.00
19	Total no. of employees (in lakhs)	-	-	-	-	19.00	19.54
20	Financial Ratio (%)						
(a)	Sales to Capital employed	131.89	125.08	75.64	75.65	113.26	108.81
(b)	PBDIT to Capital employed	21.41	22.70	19.13	17.30	20.66	20.92
(c)	PBIT to capital employed	14.20	15.21	15.19	13.58	14.53	14.67
(d)	PBDIT to Turnover	16.24	18.15	25.29	22.86	18.24	19.23
(e)	PBIT to Turnover	10.77	12.16	20.08	17.95	12.83	13.48
(f)	PBT to Turnover	5.32	6.61	9.33	8.37	6.37	7.01
(g)	Net Profit to Turnover	3.63	4.67	6.54	5.97	4.27	4.97
(h)	Dividend payout	47.93	30.13	16.41	16.24	37.26	26.30

One of the major initiatives towards the public sector as outlined in the new industrial policy of July 1991 was to bring all public sector enterprises under the system of Memorandum of Understanding (MOU). The system of (MOU) envisages an arm's length relationship between the PSEs and the administrative Ministries. It gives clear targets to PSEs and ensures their

operational autonomy for achieving the targets. The MOU system was started in 1987-88 with four PSEs signing MOUs. It has now gone up to 108 MOUs signed for 1999-2000. During 1998-99, 44 PSEs were rated as excellent; 30 PSEs very good; 13 PSEs as good; 19 PSEs as fair and two PSEs as poor. Despite the overall economic situation of the country and the economic sanctions imposed by US and other countries during the year, the financial performance of these enterprises was better than that of previous year. The aggregate gross margin of MOU signing PSEs during 1998-99 was 7 per cent more than that of 1997-98 and 3 per cent more than the target set for them.

MAJOR INDUSTRIES

TEXTILES

The textile sector accounting for a significant portion of the total industrial output of the country, plays a vital role in the nation's economy, both in regard to employment generation and earning of foreign exchange. This industry has witnessed a phenomenal growth during the last four decades. The total employment in this sector is estimated at about 93.10 million in 1998-99 against 39 million in 1990. The spindleage increased from 11 million in 1951 to 37 million (anticipated) during 1999-2000. The number of rotors increased from 45,000 in 1989 to 4,50,000 (anticipated) during 1999-2000. Loomage, however, has declined from 1,96,000 in 1951 to 1,23,000 as on 31 March 1999. The number of cotton/man-made fibre mills has increased from 383 in 1951 to 1,824 till 31 March 1999. Out of 1,824 mills, 192 are in the public sector. 153 mills in the corporation sector and 1,479 mills are in the private sector. The cotton/man-made fibre textile industry is concentrated mainly in Maharashtra, Tamil Nadu and Gujarat. The capacity utilisation in the spinning sector of the organised sector has provisionally increased from 58 per cent in 1990-91 to 79 per cent in 1998-99 (provisional). However, this capacity utilisation in the weaving sector of the organised sector has declined from 58 per cent in 1990-91 to 51 per cent in 1998-99 (provisional). Indian textile export during 1999-2000 amounted to Rs 57,736.88 crore.

JUTE

The jute industry in the country is traditionally export-oriented. India ranks number one in raw jute and jute goods production and number two in export of jute goods in the world. Jute-packaging materials are facing tough challenges from other low-priced synthetic substitutes. As a measure to use jute in non-packaging sectors, the Government has undertaken a number of steps for diversification. The most significant aspect of the diversification programme is the UNDP-assisted National Jute Programme under which an assistance of the order of US dollar 230 lakh from UNDP is being utilised by providing matching input from the Government of India. A large number of projects in the areas of raw jute production, R&D, product development, human resource development, and marketing are under implementation. To fulfil these objectives, the National Centre for Jute Diversification has been set up.

SILK

In the silk sector, the Government has approved an allocation of Rs 302 crore for development of sericulture during the Ninth Plan. The employment in silk sector during 1999-2000 was 63 lakh persons. Silk textile export constitute about three per cent of textile exports. During 1999-2000 exports of silk items to the tune of Rs 1,274.53 crore (provisional) were made.

HANDLOOM

The handloom industry provides large employment and contributes over 19.11 per cent of total cloth production. Production of handloom cloth decreased from 7,603.64 million sq mtrs during 1997-98 to 6,792.36 million sq mtrs during 1998-99, showing a decline of about 10.7 per cent. In order to further increase production and generate additional employment opportunities in the handloom sector, a scheme was introduced during 1992-93 to develop 3,000 handloom development centres and 500 quality dyeing units which will benefit 30 lakh weavers. During the year 1998-99, 260 handloom development centres and 78 quality dyeing centres have been sanctioned. An integrated Village Handloom Development Scheme, Project Packaging Scheme and National Silk Yarn Scheme were launched between 1991-95 with an outlay of Rs 63 crore and Rs 20 crore respectively for the Eighth Plan period. A project on development of handloom products using jute fibre titled 'Development and Transfer of Technology for use of Jute Fibre in Handloom Textiles' was sanctioned by the Government during 1993-94 with an outlay of about Rs. 10.30 crore. Besides, a scheme for setting up jute handloom development centres was introduced in January 1995.

POWERLOOMS

The decentralised powerloom sector plays a pivotal role in meeting clothing needs. It contributes about 75.86 per cent (including hosiery sector) of total cloth production in the country as against 5.02 per cent by mills and 19.11 per cent by handloom sector. In order to develop this sector, the Government has launched various schemes like setting up of Powerloom Service Centre (PSC), Computer Aided Design Centre (CAD), Powerloom Workers Insurance Scheme, Powerloom Development Export Promotion Council.

HANDICRAFTS

Handicrafts constitute an important segment of the decentralised sector of India's economy and provides employment to over six million artisans, roughly 1/5th of the total household industries scattered throughout the country especially in rural and semi-urban areas. The Office of the Development Commissioner for Handicrafts implements Plan Schemes covering various areas like training, design, development, technology upgradation, market promotion, exhibition and publicity, exports, etc. Export of handicrafts including handknitted carpets during 1999-2000 was recorded at Rs 8,059.63 crore (provisional) as compared to Rs 7,072.34 crore during 1998-99. The employment in the handicraft sector has been 71 lakh persons during

1998-99. Special programmes have been launched to promote embroidery, *zari* and *zardosi*, costume jewellery and imitation jewellery for both the domestic and international market as a measure to generate more employment opportunity for crafts people. Besides a UNDP assisted programme has been undertaken to promote wood based handicrafts for exports. *Kaleen* label has been introduced by Carpet Export Promotion Council (CEPC) to be fixed on the carpets for exports as a hall-mark of commitment towards complete eradication of child labour from the Indian carpet industry and contribution towards welfare of children and carpet weavers. A country-wide census has been launched to collect information about the handicraft artisans.

RESEARCH ASSOCIATIONS

Ahmedabad Textile Industry's Research Association, Mumbai, Textile Research Association, Mumbai, South India Textile Research Association, Coimbatore and Northern Indian Textile Research Association, Ghaziabad are four cotton textile research associations registered under Societies Registration Act, 1860, and functioning under the administrative control of the Ministry of Textiles. Silk and Art Silk Mills Research Association (SASMIRA), Mumbai, is a textile research association registered under the Societies Registration Act, 1860 (XXI of 1860) of Maharashtra. The SASMIRA's principal activities include research and development, provision of technical services, testing and training facilities in the fields of silk and art-silk. Man-made Textile Research Association (MANTRA) established in 1981 is a National Textiles Research Laboratory. It caters to multifarious needs of the textile and allied industry at large. Indian Jute Industries Research Association (IJIRA), Calcutta, registered under the West Bengal Societies Registration Act, 1961, is an autonomous cooperative research organisation under the administrative control of the Ministry of Textiles. Its objective is to promote research work connected with the jute trade and industries.

EXPORTS

Textile exports presently account for more than 1/3rd of the country's total export earnings and is the single largest earner of foreign exchange. Another notable feature of textiles and clothing exports is its low import intensity as compared to other major export products. Indian textile export during 1999-2000 amounted to Rs 57,736.88 crore against an amount of Rs 52,814.82 crore in 1998-99 representing an increase of 9.3 per cent.

NATIONAL INSTITUTE OF FASHION TECHNOLOGY

In order to provide systematic training to fashion designers and help them compete in the international market in an effective manner, in addition to the existing National Institute of Fashion Technology (NIFT) centre at New Delhi, five more new NIFT centres have been opened at Mumbai, Hyderabad, Calcutta, Chennai and Gandhi Nagar.

HEAVY ELECTRICAL INDUSTRY

Heavy electrical industry comprises equipment used for the generation,

transmission, distribution and utilisation of power. It includes items such as generators, boilers, turbines, transformers, switchgears, etc. The indigenous industry is equipped to meet entire domestic requirement. The existing installed capacity in the industry is of the order of 4,500 MW of thermal, 1,345 MW of hydro and about 100 MW of gas based power generation equipment per annum respectively. Most of these capacities are in the public sector, in companies such as BHEL. The entire industry has been delicensed under the new industrial policy announced by the Government of India. Also under the new policy, these items qualify for automatic approval as regards foreign collaborations. Steam and hydro turbines are manufactured both in the public and private sector. The total capacity is over 7,000 MW. The public sector undertaking BHEL has the largest capacity. Steam turbines up to 500 MW unit rating are being manufactured by BHEL. BHEL also manufactures gas turbines.

Boilers of both the categories, namely for industrial and power applications, are being produced in the country. BHEL is capable of making boilers for super thermal power plants. There are 19 manufacturers of industrial boilers in the country. In the organised sector 33 units are manufacturing power and distribution transformers.

The electrical industry covers a wide range of products. The installed capacity is considered adequate to meet the domestic demand as well as exports. Under the new industrial policy, the entire industry has been delicensed. Many of the electrical items like electric motor, jelly filled cables, optic fibre cables and pumping sets also qualify for 51 per cent foreign equity and automatic foreign collaboration under the new industrial policy.

The need for energy conservation has ensured greater focus in the manufacture of energy efficient lamps. The industry is receiving adequate encouragement from the Government. A number of foreign collaborations were already approved for manufacture of energy efficient lamps.

With the increasing industrialisation and growth all round, the demand for electrical energy would correspondingly increase. As elsewhere in the world, there is an increasing shift in India to have large power houses particularly super thermal power stations. Consequently, while there would be fewer but large power generating stations, the demand for transmission line towers for transmission of energy would grow substantially. There is sufficient capacity available in the country for manufacture of different types of transmission line towers. The industry is delicensed subject to the locational angle.

AUTOMOBILE

The automotive industry comprising of the automobile and the auto component sectors has shown great advances since delicensing and opening up of the sector to FDI in 1993. The investment in the industry is Rs 30,400 crore up to 1998-99. The turnover of the automobile industry exceeded Rs 36,000 crore

in 1998-99. The industry provides direct employment to one crore. Since liberalisation in 1993-94 to 1996-97, the automobile sector has shown an overall growth rate of over 20 per cent in the number of vehicles manufactured. There has been substantial addition to capacity creation from 1993-94 to 1998-99. Installed capacity in 4-wheelers had increased from 5.2 lakh to 11.76 lakh vehicles. The sustained demand constraints in 1998-99 witnessed a decline of 16 per cent in production of commercial vehicles. Nevertheless, there was a surge in two-wheeler production in 1998-99, overall automobile sector logged a growth of 5.4 per cent.

The growth of automobile components industry is closely linked to the growth of automotive industry. Keeping in line with the growth in production/sales of automobiles over the past few years, auto components industry has also registered slow growth. The production during 1998-99 was of the order of Rs 12,683 crore. The growth rate in production during 1999-2000 over 1998-99 is expected to be around 20 per cent. On export front, automobile component sector registered a growth rate of 13 per cent during 1998-99. Total export of auto components during 1998-99 was of the order of Rs 1,400 crore.

STEEL

The history of the modern iron and steel industry in India began in 1870 when the Bengal Iron Works Company set up its plants at Kulti in West Bengal. However, the first effort at large scale production got underway when the Tata Iron and Steel Company (TISCO) was set up at Jamshedpur in 1907. This was followed by the establishment of Indian Iron and Steel Company (IISCO) at Burnpur in 1919. The first unit in public sector now known as Visveswarayya Iron and Steel Limited (VISL) started functioning at Bhadravati in 1923. After independence, though development of steel industry was considered during the First Plan, it was only during the Second Plan period that efforts were made to set up three integrated steel plants each with one million ingot tonnes capacity at Bhilai, Durgapur and Rourkela. An expansion programme to double the capacity of the two private sector steel plants, namely, TISCO and IISCO to two million tonnes and one million tonnes respectively was also taken up. The three plants in the public sector came into existence in stages between 1956 and 1959 and the expansion of the private sector plants was completed in 1959. During the Third Five Year Plan, emphasis was laid on the expansion of the three public sector plants and preparation of plans to set up more steel plants to create additional steel production capacity. Two more integrated public sector steel plants were set up at Bokaro (Bihar) and Visakhapatnam (Andhra Pradesh) subsequently. Alloy Steel Plant at Durgapur and Stainless Steel Plant at Salem were set up later. The production capacity of various steel plants under the Steel Authority of India Limited (SAIL) is given in table 20.3.

TABLE 20.3 : CAPACITY OF STEEL PLANTS (YEAR 1999-2000)

Plants	(in '000 tonnes)	
	Crude Steel	Saleable Steel
Bhilai Steel Plant	3,925	3,153
Durgapur Steel Plant	1,802	1,586
Rourkela Steel Plant	1,900	1,671
Bokaro Steel Plant	4,360	3,780
Salem Steel Plant	—	175
Alloy Steel Plant	—	184
Indian Iron & Steel Company	300	242
Total	12,287	10,791

STEEL AUTHORITY OF INDIA LIMITED

Steel Authority of India Limited (SAIL), a Government company, is responsible for the management of integrated steel plants at Bhilai, Durgapur, Rourkela, Bokaro and also Alloy Steel Plant at Durgapur and Salem Stainless Steel Plant. The management of IISCO was taken over by the Government on 14 July 1972 with a view to improving its working. The Company is now a wholly-owned subsidiary of SAIL. SAIL took over Maharashtra Electros melt Limited, a mini steel plant presently producing ferro-manganese, in January 1986. Visveswarayya Iron and Steel Limited a unit controlled by the Karnataka Government, was taken over by SAIL in August 1989. On 23 May 1997, the company became a 100 per cent subsidiary of SAIL. It was merged with SAIL in 1998-99. Authorised and paid-up capital of SAIL as on 31 March 1999 are Rs 5,000 crore and Rs 4,130.40 crore respectively. Production of Crude Steel, Saleable Steel and Pig Iron from steel plants of SAIL and IISCO during 1997-98 and 1998-99 is shown in table 20.4.

TABLE 20.4 : PRODUCTION OF IRON AND STEEL—SAIL

Plants	(in '000 tonnes)	
	1997-98	1998-99
CRUDE STEEL		
Bhilai Steel Plant	4,223	4,151
Durgapur Steel Plant	1,365	1,428
Rourkela Steel Plant	1,176	1,195
Bokaro Steel Plant	3,534	3,085
Indian Iron & Steel Company	291	303
Total	10,589	10,162

SALEABLE STEEL

Bhilai Steel Plant	3,524	3,352
Durgapur Steel Plant	1,259	1,319
Rourkela Steel Plant	1,180	1,115
Bokaro Steel Plant	2,748	2,542
Alloy Steel Plant	154	100
Salem Steel Plant	177	119
Indian Iron & Steel Company	316	287
Total	9,358	8,834

PIG IRON

Bhilai Steel Plant	324	232
Durgapur Steel Plant	69	68
Rourkela Steel Plant	30	33
Bokaro Steel Plant	349	399
Indian Iron & Steel Company	406	375
Total	1,178	1,107

MINI STEEL PLANT

Apart from the integrated steel plants, steel is also produced by Electric Arc Furnace and Induction Furnace Units using steel scrap/sponge iron as feed materials. While integrated steel plants mainly produce mild steel in bulk quantities, the electric steel-making units produce mild steel as well as alloy steel including stainless steel. Crude steel production from this sector during April 1999-January 2000 was 7.09 million tonnes (provisional).

The new industrial policy announced in July 1991 has removed "Iron and Steel" from the list of industries reserved for public sector, and also exempted it from the requirements of compulsory licensing. Entrepreneurs are, therefore, free to set up steel plants of any capacity, subject to certain locational restrictions. Iron and Steel sector has been placed in the list of high priority industries where automatic approvals are available for foreign equity up to 74 per cent and for technology agreements up to two million US dollars.

VISAKHAPATNAM STEEL PLANT

Visakhapatnam Steel Plant (VSP), the country's first shore-based plant and the sixth Public Sector integrated steel plant was commissioned in August 1992. The plant conforms to exacting international standards in design and engineering. It is equipped with state-of-the-art technology, incorporating extensive energy saving and pollution control measures. The plant's excellent layout can accommodate capacity expansion to over 10 million tonnes per annum, if required. The plant attained high growth rates in production and superior technological norms within a short span of time and has established its presence for superior quality, both in the domestic and international markets.

During 1999-2000, VSP produced 2.94 million tonnes of hot metal, 2.66 million tonnes of liquid steel and 2.38 million tonnes of saleable steel. It also produced 2.65 lakh tonnes of value added products.

NATIONAL MINERAL DEVELOPMENT CORPORATION LIMITED

National Mineral Development Corporation Limited (NMDC) was established on 15 November 1958 as a Public Sector Enterprise to undertake exploitation and development of all minerals other than coal, oil and atomic minerals. Presently NMDC is operating three fully mechanised iron ore mining projects. During the period April 1999 to February 2000 NMDC produced 11.95 million tonnes of iron ore. The Corporation also made the profit of Rs 171.67 crore during this period.

KUDREMUKH IRON ORE COMPANY LIMITED

The Kudremukh Iron Ore Company Limited (KIOCL), a Government of India undertaking and one of the country's largest 100 per cent EOUs, was established in April 1976 to meet the long-term requirements of Iran. An Iron Ore Concentrate Plant of 7.5 million tonnes capacity was planned at Kudremukh, to be financed in full by Iran. However, as Iran stopped further loan disbursements after paying 255 million US dollars, the project was completed as per schedule with the funds provided by Government of India. While the project was commissioned on schedule, Iran did not lift any quantity of concentrate consequent to political developments in that country. As a diversification measure, the Government approved the construction of a three million tonnes per year capacity pellet plant in Mangalore in May 1985. The plant went into commercial production in 1987 and is now exporting both blast furnace and Direct Reduction grade pellets to many countries including Turkey, Australia, Indonesia, China, Taiwan, etc., and also to domestic sponge iron units such as M/s Vikram Ispat, Essar Steel and Nippon Denro Ispat. During 1998-99, the Company produced 5.042 million tonnes of concentrate and 2.525 million tonnes of pellets.

Till 1988-89, the Company had been making losses. It staged a turn around in 1989-90 when it posted a net profit of Rs 24.95 crore and has been earning profits since then. The highest profits recorded by KIOCL was Rs 140.27 crore in 1991-92. Profit during 1998-99 was Rs 18.53 crore. The Government disinvested around one per cent of its equity out of the total paid-up capital of Rs 634.51 crore during 1995 in favour of GIC/mutual funds/KIOCL's employees, etc.

SPONGE IRON INDIA LIMITED

The Sponge Iron India Limited (SIIL) was incorporated as a Public Limited Company in March 1975 under the Companies Act, 1956. While the authorised capital of the Company is Rs 40 crore, the paid-up capital as on 31 March 1999 was Rs 32.58 crore. Equity shares in the Company held by the Government of India and the Government of Andhra Pradesh are in the ratio of 97:3.

The Company set up a 30,000 tonnes per annum (tpa) Demonstration Sponge Iron Plant at Kothagudem (Andhra Pradesh) with the assistance of UNDP/UNIDO in 1975 and the plant went into production in 1980. The capacity of the plant was doubled by putting another unit of 30,000 tpa. The plant has been producing quality sponge iron suitable for steel making. The Company has also been rendering consultancy services for setting up sponge iron plants for various clients both in India and abroad.

Keeping in view the present financial position, a revised turn around plan is being considered for revival of the company. The Disinvestment Commission in its XIth Report released in July 1999 has recommended disinvestment of 100 per cent Government of India equity in SIIL after writing off outstanding loans and interest accrued thereon.

METALLURGICAL AND ENGINEERING CONSULTANTS (INDIA) LIMITED

As the first consultancy and engineering organisation in the country to be accredited with ISO : 9001, the last 39 years have seen Metallurgical and Engineering Consultants (India) Limited (MECON) emerged as one of the largest design, engineering and consultancy organisations in the world. It has developed considerable expertise not only in the field of consultancy services like design, basic and detailed engineering, project management, construction and its management services, etc., but also in design and supply of equipment in the ferrous, non-ferrous, oil and gas, petro-chemical and other general industries. MECON has diversified its services into power, environmental engineering, ocean engineering, procurement, construction and commissioning on turnkey basis. During the last two decades, MECON has been actively associated in assisting Indian defence sector in modernising/revamping of existing units, installation of new strategically important units and building research and development establishments. Currently MECON is providing its services for setting up of the 2nd launch pad of Indian Space Research Organisation at Sriharikota.

FERTILIZERS

Four decades of planning and development of the fertilizer industry have brought India to the frontline of fertilizer-producing countries. India today is the third largest producer of nitrogenous fertilizers in the world. There are, at present, 64 fertilizer units manufacturing wide range of nitrogenous and complex fertilizers, including 39 units producing urea and nine units producing ammonium sulphate as a by-product. Besides, there are about 79 units producing single superphosphate.

The production capacity of nitrogen has increased from a modest 85,000 tonnes in 1951-52 to 110.71 lakh tonnes as on 30 November 1999 and that of phosphatic fertilizers from 63,000 tonnes to 36.48 lakh tonnes of P2O5 during the same period. Against the nominal production of 16,000 tonnes of nitrogen and 11,000 tonnes of P2O5 in 1951-52, the country produced 104.80 lakh tonnes of nitrogen and 31.41 lakh tonnes of P2O5 during 1998-99. The production target for 1999-2000 was fixed at 110.67 lakh tonnes of nitrogen and 33.45

lakh tonnes of phosphate against which the production up to December 1999 was 83.04 lakh tonnes of nitrogen and 25.10 lakh tonnes of phosphate.

The consumption, indigenous production and imports of fertilizers during the period 1991-92 to 1999-2000 are given below :

(Lakh tonnes)

Year	Consumption	Production	Imports
1991-92	127.28	98.63	27.69
1992-93	121.55	97.36	29.08
1993-94	123.66	90.47	31.67
1994-95	135.63	104.38	29.65
1995-96	138.77	113.35	39.55
1996-97	143.08	111.55	19.75
1997-98	161.88	130.62	31.74
1998-99	167.98	136.24	31.45
1999-2000 ¹	191.45	144.12	30.94

¹ Provisional

During 1999-2000 (RE), the total subsidy borne by the Government on controlled fertilizers will be of the order of Rs 8,750 crore (Rs 8,670 crore for indigenous and Rs 80 crore for imported fertilizers). Apart from the subsidy on controlled fertilizers, the Government has been giving a special concession on decontrolled fertilizers in order to promote balanced use of plant nutrients. The rates of concession have been substantially increased in the recent years to induce the farmers to optimise the use of the three plant nutrients. From 1 April 1999, the level of concession has been fixed at Rs 4,600 PMT for indigenous DAP, Rs 3,200 PMT for imported DAP, Rs 3,250 PMT for MOP and Rs 900 for SSP. The level of concession has been proportionately fixed for various complex fertilizers taking into account the NPK content in these fertilizers.

PUBLIC SECTOR UNDERTAKINGS

The public sector has been playing a dominant role in the fertilizer industry. The first State-owned fertilizer unit was set up in 1951 at Sindri in Bihar followed by another plant at Nangal in Punjab. With the coming up of another fertilizer plant at Trombay, the Government decided to bring all the public-sector fertilizer units under the management of a single undertaking and the Fertilizer Corporation of India Limited (FCI) was accordingly incorporated in January 1961. The National Fertilizers Limited was established on 23 August 1974. Thereafter, the Fertilizer Corporation of India and the National Fertilizers Limited were re-organised into four companies on the basis of feed-stock and geographical considerations from 1 April 1978. At present there are nine public sector undertakings under the administrative control of Department of Fertilizers. FCI has now four units, one each at Sindri (Bihar) Gorakhpur

(U.P.), Talcher (Orissa) and Ramagundam (Andhra Pradesh), with a total installed capacity of 5.87 lakh tonnes of nitrogen.

The National Fertilizers Limited (NFL) has, at present, six operating units, viz., the Calcium Ammonium Nitrate (CAN) Plant at Nangal and the Urea Plants at Nangal, Bhatinda, Panipat, Vijaipur and Vijaipur Expansion. The total installed capacity of NFL has gone up to 13.70 lakh tonnes of nitrogen, equivalent to 28.05 lakh tonnes of urea and 3.28 lakh tonnes of CAN. During 1999-2000 (up to December 1999), the company produced 11.29 lakh tonnes of nitrogen, 23.28 lakh tonnes of urea and 1.21 lakh tonnes of CAN.

Rashtriya Chemicals and Fertilizers Limited (RCF) is operating five fertilizer plants at Trombay set up during the period from October 1965 to July 1982 and a large gas-based fertilizer plant at Thal which started commercial production in 1985. The installed capacity of the RCF plants is 10 lakh tonnes of nitrogen and 1.20 lakh tonnes of phosphate. It is estimated that for 1999-2000, the production of nitrogen and phosphate would be 9.88 lakh tonnes and 1.24 lakh tonnes respectively.

Hindustan Fertilizer Corporation Limited has five units in production, three at Namrup in Assam and one each at Durgapur in West Bengal and Barauni in Bihar, having a total annual installed capacity of 4.24 lakh tonnes of nitrogen.

The Fertilizers and Chemicals Travancore Limited (FACT), Udyogamandal (Kerala), has three operating units, one at Udyogamandal and two at Cochin. Besides fertilizers, the company is engaged in the manufacture of chemicals. With the commissioning of a caprolactam plant in October 1990, the company has entered the field of petro-chemicals also. FACT Engineering and Design Organisation (FEDO), another division of the company, is engaged in design engineering, procurement, supervision of construction and commissioning of fertilizer/chemical plants.

Madras Fertilizers Limited (MFL) is a joint venture, with the Government of India holding 58.74 per cent of the equity share capital and the National Iranian Oil Company holding 25.44 per cent and public equity holding is 15.82 per cent. The annual installed capacity of MFL is 2.54 lakh tonnes of nitrogen and 1.43 lakh tonnes of phosphate.

Pyrites, Phosphates and Chemicals Limited (PPCL), set up in March 1960, is at present engaged in the exploration of pyrites deposits as well as production of single-superphosphate at Amjhore in Bihar, exploration-cum-production mining of pyrites deposits as well as production of single superphosphate at Saladipura in Rajasthan and mining of rock phosphate ore from the Mussoorie phosphorite deposits.

Paradeep Phosphates Limited (PPL) was established in December 1981 for setting up a phosphatic fertilizer complex at Paradeep in Orissa. The first phase of the project, comprising 7.20 lakh tpa capacity DAP plant and allied facilities, was commissioned in 1986. The second phase comprising sulphuric

acid and phosphoric acid plants went into commercial production in June 1992.

Projects and Development India Limited (PDIL), formerly known as Fertilizer (Planning & Development) India Limited, is engaged in design engineering, procurement and supervision of construction/commissioning of fertilizer and allied chemical plants. The company has played a pioneering role in developing the know-how for manufacture of catalysts in India.

COOPERATIVE SECTOR

Indian Farmers Fertilizer Cooperative Limited (IFFCO) incorporated on 3 November 1967 and Krishak Bharati Cooperative Limited (KRIBHCO) incorporated on 17 April 1980 are multi-state cooperative societies under the administrative control of the Department of Fertilizers. IFFCO has six operating units, one each at Kalol and Kandla in Gujarat and Phulpur, Phulpur Expansion, Aonla and Aonla Expansion in Uttar Pradesh. KRIBHCO has a gas-based urea-ammonia plant at Hazira in Gujarat with a capacity to produce 14.52 lakh tonnes of urea per annum (6.68 lakh tonnes in terms of nitrogen). At present IFFCO's installed capacity in terms of nutrients is 16.81 lakh tonnes of nitrogen and 5.19 lakh tonnes of phosphate per annum.

CHEMICALS

The chemical industry in the country has maintained a steady growth. The industry is highly heterogeneous encompassing many sectors like organic, inorganic chemicals, dyestuffs, paints, pesticides, speciality chemicals, etc. Some of the prominent individual chemical industry sectors are caustic soda, soda ash, carbon black, phenol, acetic acid, methanol and azo dyes.

In tune with the liberalisation policy of the Government of India, industrial licensing has been done away with for all the chemical industries except for a small list of hazardous chemicals. Entrepreneurs are, therefore, free to set up chemical industries by following the Industrial Entrepreneurs Memorandum Route. The Government of India is committed to promoting increased inflow of Foreign Direct Investment (FDI) and is intended benefits through high technology, modern management techniques, increased opportunities for exports of Indian products and services of international standards for the Indian consumer. Towards achieving these objectives, the Government has put in place a transparent, dynamic and investor friendly policy framework. The Government has substantially expanded the list of industries eligible for Automatic Approval up to 100 per cent.

Flourished under the dual protection of licensing and high tariffs, the industry was characterised by uneconomic capacities, fragmented production base and poor marketing focus. As part of liberalisation measures introduced in 1991 and thereafter, the capacity ceiling was removed, industrial licensing made redundant and tariffs were reduced.

Along with modernisation to improve the operating efficiency of the plants and energy conservation, safety in operations, health of the workers

engaged in the processing industry as well as environment concerns, management of toxic chemicals is also receiving increasing attention. In the manufacture of caustic soda, more and more units are shifting to the membrane cell technology from the conventional mercury diaphragm technology.

In agro-chemical sector, high-volume low-priced pesticides are being substituted by low-volume high-priced pesticides. Besides use of natural pesticides, use of bio-pesticides is gradually picking up in the country. To utilise the idle capacity available with the pesticides units, the country has entered the competitive field of export of pesticides.

Efforts are being made to acquire the right technology to manufacture intermediates for pesticides. The growth in dyestuff industry has also been noteworthy. Dyes and dye intermediates offer immense possibilities for exports from India in view of their international quality and competitive prices. Production performance of some of the important chemicals including pesticides and dyestuffs are given below :

Item	Installed Capacity	(In '000 tonnes)		
		1997-98	1998-99	1999-2000
Soda Ash	1,865.00	1,558.62	1,459.00	1,540.00
Caustic Soda	2,019.43	1,314.68	1,306.46	1,350.00
Carbon Black	304.70	198.77	220.62	240.00
Calcium Carbide	149.95	78.32	61.50	50.00
Phenol	73.10	69.26	66.20	66.00
Methanol	386.00	394.07	367.40	350.00
Tech. Pesticides	128.90	84.47	88.80	94.50
Dyestuffs	52.92	35.47	29.69	28.50

PUBLIC SECTOR UNDERTAKINGS IN CHEMICAL SECTOR

There are two public sector units, namely, Hindustan Organic Chemicals Limited (HOCL) and Hindustan Insecticides Limited (HIL) in the chemicals sector.

Hindustan Organic Chemicals Limited was incorporated in December 1960 at Rasayani, Raigad district in Maharashtra, with the main objective of manufacturing chemical intermediates required for the manufacture of drugs, dyestuffs, rubber chemicals and laminates, etc. The company has two units at Rasayani (Maharashtra) and Cochin (Kerala). Rasayani unit produces organic group of heavy chemicals and intermediates such as nitrobenzene, hydrogen, aniline, sulphuric acid, acetic acid, etc. Cochin unit produces phenol, acetone and propylene. The company has floated a subsidiary

company called Hindustan Fluorocarbons Limited for manufacturing of polytetrafluoroethylene (PTFE). The production of the company during 1998-99 was 2,71,447 MT with a turnover of Rs 416.53 crore.

Hindustan Insecticides Limited (HIL), incorporated in 1954, has three units at Delhi, Udyogamandal (Kerala) and Rasayani (Maharashtra). The company also has a subsidiary company, namely, the Southern Pesticides Corporation Limited with headquarters at Hyderabad and a factory at Kovvur. HIL is engaged in the manufacture of DDT, Malathion, Endosulfan, and Butachlor, the major pesticides used in the country. The production by the company during 1998-99 was 15,705 MT/KL and with a turnover of Rs 132.19 crore. The Delhi unit of the company has been closed with effect from 30 November 1996, and is being re-located at Bhatinda (Punjab).

PETROCHEMICALS

Despite the general slow down of the economy and the steep fall in the international prices of petrochemicals eroding margins of domestic producers, the petrochemical sector has performed well in 1999-2000. Production of major petrochemicals increased from 3,972 kilo tonnes in 1998-99 to 4,623 kilo tonnes in 1999-2000 registering a growth of about 16 per cent. The demand of petrochemicals increased from 4,578 kilo tonnes to 5,025 kilo tonnes in 1999-2000 registering a growth of 10 per cent. Considering the above growth in depressed market, it is expected that the sector will grow at the rate of 15 per cent/year during the normal times.

Increase in production of polymers has shown impact on new capacity additions which have taken place during the year 1999-2000 mainly from Haldia Petrochemicals Limited (Haldia, West Bengal) and IPCL (Gandhar). There has been significant capacity additions during the year 1999-2000. The notable was the commissioning of 4,20,000 lakh tpa ethylene plant (naphtha cracker) by Haldia Petrochemicals Limited and 3,00,000 lakh tpa ethylene plant (gas cracker) by IPCL (Gandhar). IPCL also commissioned its 1,60,000 tpa HDPE plant and 1,00,000 tpa MEG plant successfully at Gandhar during the same year. At Nagothane complex, IPCL expanded the capacity of HDPE from 1,60,000 tpa to 2,20,000 tpa and ethylene from 3,00,000 tpa to 4,00,000 tpa during the same year. Reliance Industries Limited also started its paraxylene plant at Jamnagar (Gujarat) with 14,00,000 tpa capacity and polypropylene plant having 6,00,000 tpa capacity during the year 1999-2000.

In quantitative terms, the exports of petrochemicals are not likely to register any increase during the year 1999-2000 over previous year exports of about 1,27,000 mt. Fibres exports are expected to increase from 61,000 mt in 1998-99 to 70,000 mt in the year 1999-2000 specially due to exports of polyester filament yarn. In case of polymers where the exports increased from the level of 51,000 mt in 1996-97 to 60,000 mt in 1997-98, on the other hand these exports declined to the level of 43,000 mt in the year 1998-99 and is expected to come down to 40,000 mt during the year 1999-2000. Though the capacities of polymers have increased over a period of last four years owing

to increased production, however, their exports have come down during the period due to fall in prices in the international market. In case of synthetic fibres and filament yarn, the domestic consumption has also increased.

The plastic processing industry is predominantly in the small scale sector which provides direct employment to over two lakh persons. With substantial capacity coming up, the employment generation is likely to increase. In the initial years, since indigenous capacity was limited, the growth was mainly import-driven. Consequent to the strong leadership provided by IPCL and perceiving the greater growth and scope for returns on investments, several private sector companies entered petrochemical sector. Consumption of major petrochemicals increased from 7.8 lakh mt in 1984-85 to 16.7 lakh mt in 1990-91 and 30 lakh mt in 1995-96 are expected to reach 50 lakh mt in 1999-2000 and 56 lakh by 2000-01. To meet the growing demand of petrochemicals, Government has sanctioned several mega petrochemical complexes which would make India largely self-sufficient in petrochemicals.

There are three organisations in the petrochemical sector under the administrative control of the Department of Chemicals and Petrochemicals. Indian Petrochemicals Corporation Limited (IPCL), a public sector undertaking, incorporated in March 1969 is responsible for manufacture and distribution of various petrochemicals like polymers, synthetic organic chemicals, fibres and fibre intermediates. The company earned a net profit of Rs 189 crore during 1999-2000. Petrofils Co-operative Limited (PCL), a joint venture of the Government of India and weavers' co-operative societies, produced polyester filament yarn and nylon chips (engineering polymer grade) as its two plants located at Vadodara and Naldhari in Gujarat. The society has set up the only spandex plant at Naldhari. The PCL, which was doing well until 1993-94 started incurring losses thereafter and its accumulated losses are estimated to be about Rs 460 crore up to 31 March 2000.

The Central Institute of Plastics Engineering and Technology (CIPET) was established in 1968 as an autonomous organisation under the administrative control of the Department of Chemicals and Petrochemicals. The basic objective of CIPET is to train students in various disciplines of plastics such as mould making, mould design, testing and characterisation of plastics, plastic processing, etc. The institute organises various short-term courses, tailor-made courses, awareness programmes and entrepreneurs development programmes, etc., in the field of plastics. Over the years, the institute has grown in size. At present there are 12 extension centres of CIPET viz., at Ahmedabad, Amritsar, Bhopal, Bhubaneswar, Chennai, Hyderabad, Imphal, Lucknow, Mysore, Patna, Haldia and Guwahati. The Centres at Patna, Haldia and Guwahati are under project stage.

DRUGS AND PHARMACEUTICALS

The drugs and pharmaceuticals industry in India, during the last 40 years has shown tremendous progress if one takes into consideration the growth rate as seen in other developing countries. Today, India is in a position to

meet 70 per cent of its requirement of bulk drugs and almost all its requirement of formulations. About 250 units in the organised sector, five in the public sector (IDPL, HAL, SSPL, BCPL, BIL), seven in the joint sector and about 5,000 units in the small-scale sector are engaged in the production of drugs. Of these, more than 100 are engaged in the production of bulk drugs.

The pharmaceutical industry in India has the capability of producing a wide range of bulk drugs, covering a large spectrum of technologies and almost all formulations. In fact, the country is almost fully self-reliant in terms of formulation technology. In the case of bulk drugs, the technologies include those for sulpha drugs, vitamins, hormones and a number of new synthetic drugs like Flumenguine, Pefloxacin, Ramipiril, Ketorolac and Lisinopril, etc. Among the bulk drugs, which are critical to the country's health needs, the two most important ones are Pencillin and Rifampicin. The production of Pencillin and Rifampicin has been steadily growing and almost the entire domestic demand for these important drugs is met through indigenous production. Earlier, there was one Pencillin G manufacturing unit, Hindustan Antibiotics Limited (HAL) in the public sector and one unit in the private sector namely M/s Alembic. Three more Pencillin manufacturing units in the private sector, namely, M/s SPIC Pharmaceuticals Limited, JK Pharma Chemical Limited and Torrent Gujarat Biotech Limited have been set up which are producing almost to their full capacity. Beside, HAL has entered into a joint venture with MAX GB Limited, which has further augmented the indigenous production of Pencillin G. The indigenous production of Pencillin has thus doubled to 6,000 MMU and now is able to meet the country's demand. In addition to the two manufacturers of intermediates of Rifampicin from the basic stage, which today meets a major part of the indigenous demand of this important anti-TB and anti-leprosy drug, a new modern private sector unit has started manufacture and commercial production since July 1997.

DRUG POLICY

In view of the experience gained over the years, the Government had felt the need to modify the existing Drug Policy, 1986 so as to bring it in consonance with the Industrial Policy, 1991 and the present EXIM Policy as also to simplify and streamline the existing pricing system. The salient features of the modifications in Drug Policy, 1986 announced on the 15 September 1994 and as amended in February 1999 and March 2000, are : (i) Abolition of Industrial Licensing for all bulk drugs, their intermediates and formulations thereof except for bulk drug produced by the use of recombinant DNA technology and those requiring invivo use of nucleic acid as the active principles. Five bulk drugs, which were earlier dereserved for manufacture by Public Sector Undertakings, have been de-licenced. (ii) Foreign Direct Investment (FDI) up to 74 per cent will be automatically permitted in the case of all bulk drugs, their intermediates and formulations; (iii) Automatic approval, as per the industrial policy, for foreign technology agreements shall be given in the case of all bulk drugs, their intermediates and formulations,

except those produced by the use of recombinant DNA technology; (iv) Measures to give further impetus to R&D in the Drug Sector are as follows: (a) A new drug which has not been produced elsewhere, if developed through indigenous R&D would be put outside price control for a period of 10 years from the date of commercial production in favour of the Company who undertook the R&D; (b) If a drug is produced through a process developed indigenously which is significantly different from other known process, then the said drug is eligible for exemption from price control for a period not exceeding five years; (c) The Ministry of Health and Family Welfare would further streamline the required procedures and steps for the quick evaluation and clearance of new drug applications, specially those developed through indigenous R&D; (v) The system of price control would be operated through a single list of price-controlled drugs, selected on the basis of transparent and objective criteria as laid down in the "Modifications in Drug Policy, 1986" and formulations based thereon with a MAPE of 100 per cent; (vi) In case of basic manufacture, the rate of return would be higher by four per cent over the existing rates which are 14 per cent net worth on 22 per cent on capital employed; (vii) To achieve uniformity in prices of widely used formulations, it has been decided that there should be ceiling on prices for commonly marketed standard pack sizes controlled formulations and that it would be obligatory for all, including small scale units, to follow the prices so fixed; (viii) An independent body of experts, called the National Pharmaceutical Pricing Authority, has been entrusted with the task of price-fixation/revision and other related matter; (ix) Government keeps a close watch on the prices of medicines which are taken out of price control. In case, the price of these medicines rise unreasonably, the Government would take appropriate measures, including reclamping of price control; (x) A National Drug Authority would be set up by an Act of the Parliament, to be steered by the Ministry of Health and Family Welfare, to look after the quality control aspects, rational use of drugs and related matters; and (xi) To provide better focus to all matters relating to developing and promotion of indigenous and other systems of medicines, a separate Department has been created by the Ministry of Health and Family Welfare.

DRUGS (PRICE CONTROL) ORDER, 1995

The Drug (Prices Control) Order (DPCO), 1995 has been notified by the Government on 6 January 1995. This Order has now come into force in place of the DPCO, 1987. The DPCO '95 has taken into account the modifications in the Drug Policy, 1986 announced by the Government in September 1994 in regard to the price control on drugs and has been issued in exercise of the powers conferred on the Central Government by Section 3 of the Essential Commodities Act, 1955.

PUBLIC SECTOR UNDERTAKING

Indian Drugs and Pharmaceuticals Limited (IDPL) was incorporated under the Companies Act, 1956 on 5 April 1961. The company has five plants

including two wholly-owned subsidiaries—one each located in Rishikesh (Uttaranchal), Hyderabad (Andhra Pradesh), Gurgaon (Haryana), Chennai (Tamil Nadu) and Muzaffarpur (Bihar).

IDPL has also set up three subsidiary companies in collaboration with the respective state governments for production of quality pharmaceutical formulations. These are Rajasthan Drugs and Pharmaceuticals Limited (RDPL), Jaipur; Uttar Pradesh Drugs and Pharmaceuticals Limited (UPDPL), Lucknow and Orissa Drugs and Chemicals Limited (ODCL), Bhubaneswar.

Hindustan Antibiotics Limited (HAL), incorporated in March 1954, was the first public sector undertaking in the field of pharmaceuticals. The company was set up primarily with the objective of manufacturing pencillin and other antibiotics. It also produces streptomycin, haymycin and aureofungin, besides formulations. HAL has three subsidiary companies, promoted in collaboration with the respective state governments, Karnataka Antibiotics and Pharmaceuticals Limited (KAPL), Bangalore; Maharashtra Antibiotics and Pharmaceuticals Limited (MAPL), Nagpur, and Manipur State Drugs and Pharmaceuticals Limited (MSDPL), Imphal. In addition there is one joint venture unit with Max G.B. Limited (private sector) for production of pencillin, viz., Hindustan Max G.B. Limited.

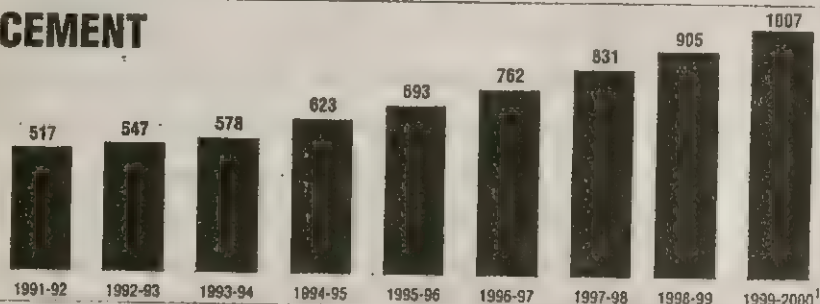
There are three public sector undertakings engaged in the manufacture of drugs and formulations located at Calcutta. These were private sector companies, pioneers again in their own field, but had been ailing over the years for various reasons. The management of these companies was taken over by the Central Government in terms of the industries (Development and Regulation) Act, 1951 and subsequently they were nationalised and new public sector companies namely : Bengal Immunity Limited (BIL), Bengal Chemicals and Pharmaceuticals Limited (BCPL) and Smith Stanistreet. Pharmaceuticals Limited (SSPL) were formed. Their main manufacturing activities are concentrated in the State of West Bengal. BIL is one of the largest producers of SERA and vaccines toxoids. It also produces other pharmaceutical formulations. BCPL, with four manufacturing units, is the largest producers of anti-snake venom in India. It also produces chemicals like sulphuric acid, alum, chrome salts and home products like soaps, hair oil, perfumes, etc. BPCL, also produces herbal products. SSPL is engaged in the manufacture of pharmaceutical formulations.

NATIONAL INSTITUTION OF PHARMACEUTICAL EDUCATION AND RESEARCH

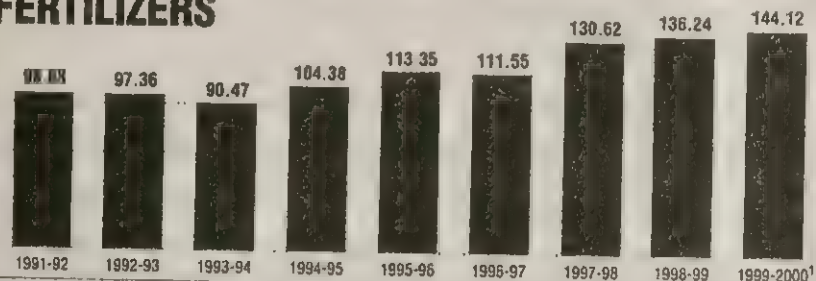
The Government of India has set up the National Institute of Pharmaceutical Education and Research (NIPER) with an outlay of Rs 99 crore at Mohali, near Chandigarh. The Institute caters to curricula development for pharmacy colleges and augments the number of qualified and professional pharmacists. It conducts regular programmes for academia and industry. The institute has started masters and doctoral programmes in various disciplines. It has been extending technical services in R&D in pharmaceutical industry.

PRODUCTION OF SELECTED INDUSTRIES (LAKH TONNES)

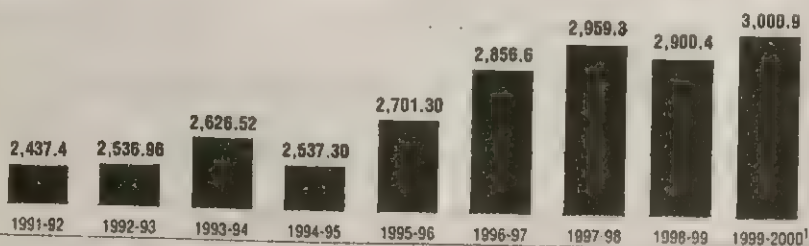
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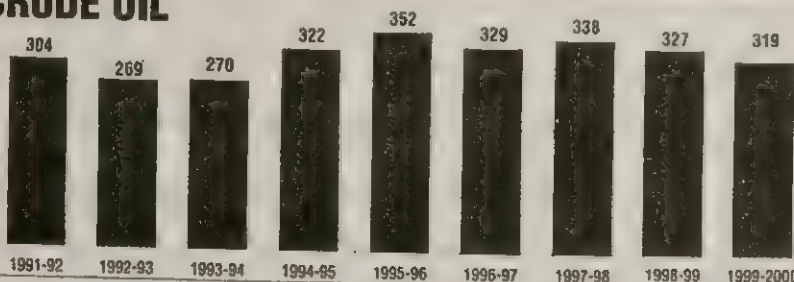
FERTILIZERS



COAL



CRUDE OIL



MINERALS

India is richly endowed with minerals. Under the Constitution, mineral rights and the administration of mining laws are vested in the respective State Governments. The Centre, however, regulates the development of minerals under the Mines & Minerals (Development & Regulation) Act, 1957 and the rules and regulations framed thereunder. This statute empowers the Central Government to formulate rules for : (i) The grant, renewal, etc., of reconnaissance permits, prospecting licences and mining leases for major minerals (*viz.* Mineral Concession Rules, 1960). (ii) The conservation and development of minerals (*viz.* Mineral Conservation & Development Rules, 1988 for major minerals (except atomic, fuel and minor minerals) and Granite Conservation and Development Rules, 1999 for granite) and (iii) The modification of old leases. The Act came into force on 1 June 1958. Amendments to this Act were made in 1972, 1986, 1994 and 1999.

MINERAL RESOURCES

Principal minerals found in the country along with their estimated reserves are given below.

COAL AND LIGNITE

Resource wise coal occupies the pride of place in the inventory of mineral resources in India. Incidentally, India ranks third in the World after China and USA in the realm of coal production. Coal occurs in rock sequences mainly of two geological ages namely Gondwana (little over 200 million years in age) and Tertiary deposit which were found at a much later geological epoch (about 55 million years). The major resources of Gondwana coal are located in coalfields occupying the Indian heartland in the states of West Bengal, Bihar, Orissa, Madhya Pradesh, Andhra Pradesh, Uttar Pradesh and Maharashtra. Tertiary coals occur in Assam, Arunachal Pradesh, Meghalaya and Nagaland. Besides, brown coal or lignite occurs in coastal areas of Tamil Nadu, Gujarat, and inland basin of Rajasthan. The total known geological reserves of all types of coal in Gondwana and Tertiary coalfields stands estimated at 208.75 billion tonnes as on 1 January 1999. Resource wise coalfields of Orissa contain the largest reserves though mostly of inferior quality coal. Metallurgical coal is restricted to parts of Damodar Valley Coalfields in West Bengal and Bihar and in the Central Indian coalfields namely Sohagpur, Sonhat, Jhilmill and Satpura. The reserves of lignite has been estimated at a little over 29.36 billion tonnes out of which the major contributor is the lignite basins of Tamil Nadu.

BAUXITE

The total recoverable reserves of bauxite in the country are placed at 2,462 million tonnes while the total *in situ* reserves are 2,953 million tonnes. About 88 per cent of the recoverable reserves are of metallurgical grade. The conditional resources of bauxite are about seven lakh tonnes. In addition, prospective resources are placed at nine million tonnes. Orissa, Andhra

Pradesh, Madhya Pradesh, Gujarat, Maharashtra and Bihar are the principal states where bauxite deposits are located. Major reserves are concentrated in the east coast bauxite deposits of Orissa and Andhra Pradesh.

CHROMITE

Total recoverable reserves of chromite are estimated at 86 million tonnes. Out of the total recoverable reserves of all grades, about 34 per cent is metallurgical and 29 per cent Charge Chrome grade. Total geological resources was estimated at 180 million tonnes consisting about 101 million tonnes *in situ* reserves and about 79 million tonnes as conditional resources. The largest share (about 96 per cent) in the total geological resources is accounted by Cuttack district in Orissa. Deposits of economic significance occur in Orissa, Karnataka, Maharashtra, Bihar, Tamil Nadu, Andhra Pradesh and Manipur. However, refractory grade reserves of chromite are very meagre.

COPPER

The total recoverable reserves of copper ore in the country are 416.8 million tonnes equivalent to 4.37 million tonnes of metal content. The all-India conditional resources of copper are 707 million tonnes (3.054 million tonnes of copper metal) and prospective resources are 0.6 million tonnes of copper ore. Major and important copper ore deposits are located in Singhbhum district (Bihar), Balaghat district (Madhya Pradesh) and Jhunjhunu and Alwar district (Rajasthan). In addition, small copper ore deposits are in Gujarat, Karnataka, Andhra Pradesh, Orissa, Uttar Pradesh, Sikkim, Meghalaya, Maharashtra and West Bengal.

GOLD

There are three important gold fields in the country, namely, Kolar Gold Field, Kolar district, Hutti Gold Fields in Raichur district (both in Karnataka) and Ramagiri Gold Field in Anantapur district (Andhra Pradesh). Total recoverable reserves of gold ore are estimated at 177.9 lakh tonnes with 67.9 tonnes of metal.

IRON ORE

The total recoverable reserves of iron ore in the country are about 10,052 million tonnes of haematite and 3,408 million tonnes of magnetite. The resources of very high grade ore are limited and are restricted mainly in Bailadila sector of Madhya Pradesh and to a lesser extent in Bellary Hospet area of Karnataka and Barajamda sector in Bihar and Orissa. Haematite resources are located in Orissa, Bihar, Madhya Pradesh, Karnataka, Goa, Maharashtra, Andhra Pradesh and Rajasthan. Magnetite resources are located in Karnataka, Andhra Pradesh, Goa, Kerala, Bihar, Rajasthan and Tamil Nadu.

LEAD-ZINC

Lead-zinc resources are located in Rajasthan, Gujarat, Maharashtra, West Bengal, Orissa, Uttar Pradesh, Andhra Pradesh, Meghalaya, Madhya Pradesh, Tamil Nadu and Sikkim. Total recoverable reserves (all grade) of lead and

zinc ores are 179.13 million tonnes comprising metal content of 2,322 thousand tonnes of lead and 10 million tonnes of zinc metal. The conditional resources of lead-zinc are 252.80 million tonnes in the country.

MANGANESE

The total recoverable reserves of manganese ore are 167 million tonnes out of which 40 million tonnes are proved, 49 million tonnes probable and 78 million tonnes of possible category. Main reserves are distributed in Orissa followed by Karnataka, Madhya Pradesh, Goa, and Maharashtra. Minor occurrences of manganese ore are located in Andhra Pradesh, Bihar, Gujarat, Rajasthan and West Bengal.

NICKEL

The total estimated conditional resources of nickel ore is 183.5 million tonnes located in Orissa (174.5 million tonnes) and Bihar (nine million tonnes).

TUNGSTEN

The total recoverable reserves of tungsten ore have been estimated at 38.11 million tonnes or 87 thousand tonnes of WO₃ content. The main reserves are located at Degana in Rajasthan. It also occurs in Andhra Pradesh, Maharashtra, Haryana and West Bengal.

BARYTES

The recoverable reserves of barytes are placed at 87 million tonnes. The Managampet deposit occurring in Cuddapah district (Andhra Pradesh) is the single largest deposit in the world containing 61 million tonnes of recoverable reserves. Minor occurrences of barytes are located in Rajasthan, West Bengal, Madhya Pradesh, Tamil Nadu, Maharashtra, Himachal Pradesh, Bihar, Uttar Pradesh and Karnataka.

DIAMOND

Diamond deposits occur in three types of geological settings such as kimberlite pipes, conglomerate beds and alluvial gravels. The main diamond bearing areas in India are Panna belt in Madhya Pradesh, Munimadugu-Banganapalle conglomerate in Kurnool district, Wajrakarur kimberlite pipe in Anantapur district and the gravels of Krishna river basin in Andhra Pradesh. Reserves have been estimated only in Panna belt and Krishna gravels. In addition to the recoverable reserves of about 0.982 million carats, there are conditional resources of 1,896 thousand carats.

DOLOMITE

Dolomite occurrences are widespread in almost all parts of the country. The total recoverable reserves of all grades of dolomite are 4,387 million tonnes. Of the total all India recoverable reserves, the major share of about 90 per cent reserves is distributed in seven states namely Madhya Pradesh, Orissa, Gujarat, Karnataka, West Bengal, Uttar Pradesh, and Maharashtra. The

reserve of BF and SMS grade are large, but those of refractory grade at 117 million tonnes constitute only 2.7 per cent of the all India reserves.

FIRECLAY

Fireclay occurs as a bedded deposit, mostly associated with coal measures of Gondwana and Tertiary periods. Important deposits are associated with Jharia and Raniganj coalfields in Bihar and West Bengal, Korba coalfields in Madhya Pradesh and Neyveli Lignite field in Tamil Nadu. Notable occurrences of fireclay not associated with coal measures are known in Gujarat, Jabalpur region of Madhya Pradesh and Belpahar-Sundergarh areas of Orissa. The recoverable reserves of fireclay are about 518 million tonnes.

FLUORSPAR

Total recoverable reserves of fluorspar in India are 2.95 million tonnes. Commercial deposits of fluorspar are located in Rajasthan, Gujarat, Maharashtra and Madhya Pradesh.

GYPSUM

The recoverable reserves of gypsum are estimated at 238 million tonnes. Out of this, 345 thousand tonnes are of surgical/plaster grade, 39 million tonnes of fertilizer/pottery grade, 34.33 million tonnes of cement/paint grade, 5.5 million tonnes of soil reclamation grade and the rest is unclassified. The production of gypsum is confined to Rajasthan, Jammu and Kashmir, Tamil Nadu and Gujarat. Rajasthan is the main producer of gypsum followed by Jammu and Kashmir.

GRAPHITE

The recoverable reserves of graphite are 4.58 million tonnes. Orissa is the major producer of graphite. Almost the entire reserves of Tamil Nadu under proved category are in Ramanathapuram district. Deposits of commercial importance are located in Andhra Pradesh, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Tamil Nadu.

ILMENITE

The recoverable reserves of ilmenite are 90.15 million tonnes. Ilmenite occurs mainly in beach sand deposits right from Ratnagiri coast in the west to Orissa coast in the east. These minerals are found in Kerala, Andhra Pradesh, Tamil Nadu, Orissa, Maharashtra and West Bengal.

KAOLIN

The all India recoverable reserves of kaolin including whiteclay of all categories are about 1,042 million tonnes. Principal producing states are Kerala, West Bengal, Bihar, Rajasthan and Gujarat. Ball clay is mainly produced in West Godavari district of Andhra Pradesh and Bikaner district of Rajasthan.

LIMESTONE

The total recoverable reserves of limestone of all categories and grades are placed at 75,679 million tonnes. The total conditional reserves have been estimated at 701 million tonnes. The major share of its production comes from Madhya Pradesh, Rajasthan, Andhra Pradesh, Tamil Nadu, Gujarat, Himachal Pradesh, Karnataka, Maharashtra, Orissa, Bihar and Uttar Pradesh. The remaining part comes from Assam, Haryana, Jammu and Kashmir, Kerala and Meghalaya.

MICA

India is the world's leading producer of sheet mica and accounts for about 60 per cent of global mica trade. Important mica bearing pegmatite occur in Andhra Pradesh, Bihar and Rajasthan. The tentative recoverable reserves of mica in Andhra Pradesh are 44,837 tonnes, in Bihar 13,554 tonnes and in Rajasthan 1,589 tonnes.

MAGNESITE

The total recoverable reserves of magnesite are about 245 million tonnes of which 49 million tonnes are in the proved category. Major deposits of magnesite are found in Uttar Pradesh, Tamil Nadu and Rajasthan while minor occurrences are in Jammu and Kashmir, Karnataka, Himachal Pradesh, and Kerala.

KYANITE AND SILLIMANITE

The total recoverable reserves of kyanite and sillimanite in the country are 2.82 million tonnes and 51.6 million tonnes, respectively. Besides, conditional resources of 160.92 million tonnes of kyanite are also estimated. For sillimanite conditional resources are estimated at 5.87 million tonnes. Kyanite deposits are located in Maharashtra, Karnataka, Bihar, Rajasthan and Andhra Pradesh. Sillimanite resources are in Orissa, Tamil Nadu, Kerala, Andhra Pradesh, and West Bengal and minor occurrences in Assam, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya and Rajasthan.

PHOSPHATE MINERALS

Deposits of phosphorites are located in Rajasthan, Madhya Pradesh, Uttar Pradesh and Gujarat. Besides, apatite deposits of commercial importance are reported from West Bengal, Bihar, Andhra Pradesh, Tamil Nadu and Rajasthan. Recoverable reserves of phosphorite are estimated at 145.37 million tonnes of all grades and of apatite at 13.64 million tonnes.

OTHER MINERALS

Other minerals occurring in significant quantities in India are bentonite (Rajasthan, Gujarat, Bihar and Jammu & Kashmir), corundum (Karnataka, Rajasthan, Andhra Pradesh, and Madhya Pradesh), calcite (Andhra Pradesh, Rajasthan, Madhya Pradesh, Tamil Nadu, Haryana, Karnataka, Uttar Pradesh, and Gujarat), fuller's earth (Rajasthan, Arunachal Pradesh, Andhra Pradesh,

Assam, Karnataka and Madhya Pradesh) feldspar (Rajasthan, Jammu & Kashmir, Andhra Pradesh, Maharashtra, West Bengal and Karnataka) garnet (Jammu & Kashmir, Orissa, Andhra Pradesh, Rajasthan and Kerala) pyrites (Bihar, Rajasthan, Karnataka, Himachal Pradesh and Andhra Pradesh) steatite (Rajasthan, Uttar Pradesh, Kerala, Maharashtra and Madhya Pradesh) wollastonite (Rajasthan and Gujarat) zircon (beach sand of Kerala, Jammu & Kashmir, Andhra Pradesh and Orissa) and quartz and silica minerals are widespread and occur in nearly all states. Besides, the country has vast resources of building, dimension and ornamental stones such as granite, marble, slate and sandstone. Granite is mainly mined in Jammu & Kashmir, Karnataka, Andhra Pradesh and Rajasthan; marble in Rajasthan, Gujarat and Uttar Pradesh and slate in Madhya Pradesh, Haryana and Andhra Pradesh and sandstone in Rajasthan.

MINERAL EXPLORATION AND DEVELOPMENT

A number of organisations are engaged in the exploration and development of mineral resources in India. These include Geological Survey of India (GSI), Mineral Exploration Corporation Limited, Indian Bureau of Mines (IBM), and a number of public sector undertakings under the administrative control of the Ministry of Mines.

GEOLOGICAL SURVEY OF INDIA

The Geological Survey of India (GSI) is a premier earth science organisation in the country and has been rendering services to the nation and society. It is primarily at large in meeting the growing information requirement in diverse fields: natural resource build-up and country's multifarious development missions. In the post-independence era, there has been added emphasis on creating and harnessing the natural resources for mitigating threat, stabilising earthquake, defencing and demarcating areas prone to environmental degradation, and natural public health hazards and providing geoscientific inputs to optimum sustained development in the rural and urban sectors which are gradually becoming important functions of the Survey. The upgradation of geoscientific expertise through training and induction of modern techniques and sophisticated tools coupled with R & D efforts, increased effective creation of computerised databases for management of geoscientific information, generation of thematic maps by GIS application and dissemination of these to the user agencies (both government and private sectors) has become an important activity of the organisation. Such performance and continuing activities of the Survey have benefited all the major segments of the Indian economy.

Established in 1851 with the main aim of locating coal resources, the GSI has since grown into one of the largest scientific organisations in the country with a strength of about 2000 scientific and technical professionals. The functions of Geological Survey of India encompass wide spectrum of earth science activities such as geology, geomorphology and geophysics, mapping, specialised thematic studies, ground and airborne geophysical surveys, marine surveys, geoenvironmental studies incorporating latest remote sensing

BHARAT ALUMINIUM COMPANY LIMITED

The Bharat Aluminium Company Limited (BALCO) was incorporated on 27 November 1965 as the first primary aluminium producing undertaking in the public sector. The company is operating the Korba Aluminium Complex in Bilaspur district of Madhya Pradesh and Bidhanbag Unit in Asansol in West Bengal. The Korba Aluminium Complex has facilities for production of two lakh tonnes of alumina per annum and one lakh tonnes of saleable aluminium metal, i.e., rolled products, extrusions, properzi rods and ingots. The Bidhanbag Unit has an assessed annual production capacity of 6,400 tonnes of saleable fabricated products, viz., rolled products, extrusions, foils and conductors. During 1999-2000 the Company earned a net profit of Rs 113.06 crore. On 5 March 1997, the Government had approved installation of a New Cold Rolling Mill of 40,000 tonnes per annum capacity along with associated facilities at Korba Aluminium Complex of BALCO at an investment of Rs 157.50 crore. The project which was to be implemented within three years is expected to be commissioned by January-March 2001.

NATIONAL ALUMINIUM COMPANY LIMITED

The National Aluminium Company Limited (NALCO) was incorporated on 7 January 1981 with the objective to produce alumina and aluminium. Its registered office is at Bhubaneswar. It operates a bauxite mine with a capacity to produce 24 lakh tonnes of bauxite per annum from the Panchpatmali (Koraput) deposits, an eight lakh tonnes per annum alumina refinery at Damanjodi (Koraput), a 2,30,000 tonnes per annum aluminium smelter at Angul and six 120 MW captive power plants at Angul to feed the smelter. The Company recorded a net profit of Rs 681.86 crore and achieved sales turnover of Rs 2,141.80 crore during 1999-2000. It also earned foreign exchange of Rs 1,031.64 crore during this period. The Company's project of expansion of capacity of Bauxite Mines from 2.4 million tonnes per year (MTPY) to 4.8 MTPY and that of Alumina Refinery from 0.8 MTPY to 1.575 MTPY at an investment of Rs 1,664.60 crore to be implemented in 51 months from 18 December 1996 is progressing on schedule. The Government had approved on 3 February 1998 expansion of NALCO's Aluminium Smelter from existing 2,30,000 tpa to 3,45,000 tpa and that of Captive Power Plant from the existing 720 MW to 840 MW at an investment of Rs 2,061.98 crore.

HINDUSTAN ZINC LIMITED

Hindustan Zinc Limited (HZL) was incorporated on 10 January 1966 to take over operations of the erstwhile Metal Corporation of India Limited and to develop mining and smelting capacities to substantially meet the increasing domestic demand of zinc and lead metals. With headquarters at Udaipur, HZL's operations are spread over in the states of Rajasthan, Andhra Pradesh, Orissa and Bihar consisting of five mines with a total lead-zinc ore production capacity of 1,52,000 tpa zinc and 65,000 tpa lead, besides rock phosphate. The Company offers a wide range of zinc and lead metal grades to its customers, besides a range of by-products. During 1999-2000 the production of zinc and

lead metals was 1,45,796 tonnes and 35,120 tonnes respectively. The sales turnover of the Company during 1999-2000 was Rs 1,515.60 crore. The Company earned a net profit of Rs 182.17 crore.

HINDUSTAN COPPER LIMITED

Hindustan Copper Limited (HCL), one of the producers of primary copper in the nation, was incorporated on 9 November 1967, as a Public Sector Enterprise under the then Ministry of Steel and Mines (Government of India) with Khetri Copper Complex as its main unit. Subsequently, Indian Copper Corporation was nationalised and taken over by HCL in 1972. Today, the main units of the Company are : (i) Khetri Copper Complex in Rajasthan, (ii) Indian Copper Complex in Bihar, (iii) Malanjkhand Copper Project in Madhya Pradesh and (iv) Taloja Copper Project in Maharashtra. HCL produces primary copper in the form of cathodes, wirebars and wire rods. The Company is also engaged in the production of gold, silver, selenium, tellurium and manufacture of single super phosphate, sulphuric acid, copper sulphate and nickel sulphate as by-products. The total installed capacity of HCL is 47,500 tpa refined copper and 60,000 tpa wire rods at Taloja. During 1999-2000 HCL produced 31,086 lakh tonnes of ore and 38,464 tonnes of refined copper (cathode).

BHARAT GOLD MINES LIMITED

Bharat Gold Mines Limited (BGML) operates the world-famous old Kolar Gold Mines in Karnataka State. The company was nationalised in 1956 and was incorporated as a public sector company under the then Ministry of Mines, Government of India on 1 April 1972. The Company's registered office is at Kolar Gold Fields. In 1999-2000, the Company produced 433.5 kg of gold. The continued financial losses over the decade have resulted in the Company being declared as a sick industry and consequently the Board for Industrial and Financial Reconstruction (BIFR) has given its verdict in June 2000 to wind up the BGML in public interest.

SIKKIM MINING CORPORATION

Sikkim Mining Corporation was established in 1960 as a joint venture of Government of Sikkim and Government of India by the proclamation of erstwhile "Sikkim Durbar". The objective of the Corporation is to mine multimetal sulphide ore and produce copper, lead and zinc.

There are two mines under this Corporation : Bhotang mine (with process plant at Rangpo) and Pacheykhani Copper mine. The Pacheykhani mine (exploratory) started operation with effect from 2 May 1997. During 1999-2000 the Corporation produced 15,901 MT of ore, 718 MT of copper, 284 MT of lead and 626 MT of zinc concentrate.

MINERAL AND METAL PRODUCTION

Production of important minerals during 1998-99 and 1999-2000 is given in table 20.5. Production of important non-ferrous metals during the last seven years is shown in table 20.6.

TABLE 20.5 : MINERAL PRODUCTION 1998-99 AND 1999-2000

(Value in Rs '000)					
Minerals	Unit	Qty	1998-99	1999-2000	
			Value	Qty	Value
Coal	000 t	292270	184058800	299996	189507572
Lignite	000 t	23419	11118437	21847	10357620
Natural Gas ²	m.c.m.	25706	58740347	19984	45572505
Petroleum	000 t	32722	113512618	32011	111046159
Sub-total			367430202		356483856
Bauxite	tonne	6609525	1216754	6854425	1348737
Chromite	tonne	1418119	2823367	1696040	3347132
Copper Ore	tonne	4224924	2196718	3107528	1505014
Gold	Kg.	2683	1726935	2442	1486542
Iron Ore	000 t	72230	18559485	73475	19652869
Lead Conc.	tonne	62842	705352	62865	699075
Manganese Ore	tonne	1537693	1738334	1565483	1810047
Silver	Kg.	55409	435778	53627	419515
Tin Conc.	Kg.	39391	3034	22812	1828
Tungsten Conc.	Kg.	0	0	0	0
Zinc Conc.	tonne	349934	2515441	359924	2468802
Sub-total			31921198		32739561
Agate	tonne	154	139	120	120
Apatite	tonne	14031	17225	11642	13355
Asbestos	tonne	20111	18962	18304	21978
Ball Clay	tonne	448949	48500	404241	36404
Barytes	tonne	660854	502591	204569	111262
Calcareous Sand	tonne	14067	528	0	0
Calcite	tonne	61908	30497	59373	29259
Chalk	tonne	118623	29447	140027	34218
Clay (others)	tonne	95671	3540	206121	10187
Corundum	Kg.	807	3481	19	11
Corundum (Ruby)	Kg.	0	0	0	0
Diamond	Carat	34580	216506	40666	179340
Diaspore	tonne	9334	8980	10781	12919

Dolomite	tonne	2921748	717197	2835268	655975
Dunite	tonne	230203	77801	229667	77507
Emerald	Kg.	0	0	0	0
Felsite	tonne	657	670	656	616
Felspar	tonne	116351	15177	161800	22550
Fireclay	tonne	469721	58928	368781	40650
Fluorite (Conc.)	tonne	48	324	220	1430
Fluorite (Graded)	tonne	4025	9810	47852	151404
Fuch. Quartzite	tonne	195	39	70	14
Garnet (Abrasive)	tonne	133107	32002	190758	52487
Garnet (Gem)	Kg.	950	122	737	68
Graphite R.O.M.	tonne	135668	50264	108821	33769
Gypsum	tonne	2267240	338254	3287782	534953
Jasper	tonne	5570	1249	5445	1003
Kaolin (Total)	tonne	740542	596680	752340	512649
Kyanite	tonne	6134	4081	6485	4118
Laterite	tonne	594665	29024	736455	53828
Lime Kankar	tonne	252125	36291	206732	24449
Limeshell	tonne	91761	39275	91223	48671
Limestone	000 t	113213	11249965	127891	12650640
Magnesite	tonne	349852	386127	329790	349830
Mica (Crude)	tonne	1484	23190	1273	23136
Mica (Waster & SCR)	tonne	1067	0	1039	0
Ochre	tonne	375371	25532	409131	18407
Perlite	tonne	207	207	383	383
Phosphorite	tonne	1262238	1917670	1135595	1630075
Pyrites	tonne	88730	93255	9539	8643
Pyrophyllite	tonne	91924	19349	115316	23933
Quartz	tonne	254235	31686	227128	25924
Quartzite	tonne	45109	7755	62603	19063
Salt (Rock)	tonne	2607	3214	2812	3985
Sand (Others)	tonne	2589600	64898	2095606	52078
Shale	tonne	816492	24592	779950	14859
Silica Sand	tonne	1718325	180448	3153082	213163
Sillimanite	tonne	12123	48089	14936	54772
Slate	tonne	9711	2825	9839	2626

Steatite	tonne	481554	345489	527687	409199
Sulphur	tonne	14889	0	24823	0
Vermiculite	tonne	4274	3773	2792	3517
Wollastonite	tonne	94700	89487	116880	112530
Sub-total			17405135		18281957
Minor Minerals		0	27567047	0	27567047
Total			444323582		435072421

¹ Provisional

² Excluding value of natural gas for internal use by private & joint venture companies.

SMALL INDUSTRIES DEVELOPMENT ORGANISATION

The Small Industries Development Organisation (SIDO), set up in 1954 under the Ministry of Small Scale Industry and Agro and Rural Industry functions as an apex body in the formulation of policies and coordination of institutional activities both at the Centre and the State levels, for sustained and organised growth of Small Scale Industries (SSIs). SIDO provides a comprehensive range of facilities and services, through its network of 28 small industries services institutes, 30 branch institutes, 10 toolrooms, two extension centres, six product-cum-process development centres, six technical training centres, two institutes, namely NISIET at Hyderabad and NIESBUD at Delhi, four regional testing centres and seven field testing stations.

SIDO has the following continuing schemes under operation for Small Scale Industries: (i) Prime Minister's *Rozgar Yojana*; (ii) Integrated Infrastructure Development Scheme; (iii) Quality Upgradation in Small Scale Sector through incentive for ISO 9000 certification; (iv) Small Enterprises Information and Resource Centre Network (SENET); and (v) Technology Upgradation and Modernisation Programme (UPTECH).

NEW SCHEMES

(i) Credit Guarantee Scheme: The Credit Guarantee Scheme has been launched to provide guarantee to loans up to Rs 10 lakh (revised to Rs 25 lakh) extended by commercial banks and few selected well performing Regional Rural Banks, without any collaterals including third-party guarantee; and (ii) Credit Subsidy Scheme for Technology Upgradation: The Government approved the scheme on 20 September 2000, wherein 12 per cent back-ended capital subsidy would be admissible on loans advanced to Small Scale Industries by the scheduled commercial banks/designated SFCs for technology upgradation in certain sub-sectors.

SMALL SCALE SECTOR

The small scale sector has acquired a prominent place in the socio-economic development of the country during the past 50 years. It has contributed to

TABLE 20.6 : PRODUCTION OF NON-FERROUS METALS

Metals	Unit	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99 ¹	1999-2000 ¹
Aluminium	Tonne	4,63,424	4,76,521	5,29,264	52,60,612	5,53,640	5,42,005	6,18,682
Copper (Blister)	Tonne	37,160	50,454	40,259	41,416	43,655	37,717	42,334
Refined Copper (Cathodes)	Tonne	39,002	46,134	41,153	38,481	42,375	35,834	38,464
Gold	Kg	2,075	2,373	2,036	2,710	2,636	2,463	2,262
Lead (Primary)	Tonne	25,299	34,476	40,311	38,329	44,604	50,145	94,480
Lead (Secondary)	Tonne	11,359	14,020	5,344 ²	4,481 ²	3,788 ²		
Zinc (Ingots)	Tonne	1,43,961	1,49,312	1,42,078	1,40,422	1,64,593	1,72,982	1,74,957

¹ Provisional² Indian Lead Limited

the overall growth of the gross domestic product, as well as in terms of employment generation and export. The performance of small scale sector from 1995-96 to 1999-2000 is given in table 20.7.

SSI has shown higher growth rate than the industrial sector as a whole, with more than 38 per cent of the industrial production as a whole and 35 per cent of direct export. The sector has emerged as an engine of growth for the new millennium. The Government has initiated a number of support measures including policy of reservation, revision of investment ceilings, modernisation, technology upgradation, marketing assistance, etc. In the changed liberalised and competitive economic environment, a number of steps including partial dereservation, change in investment limits, facilitating foreign participation, establishment of growth centres, export promotion, marketing assistance and incentives for quality improvement, etc., have been taken for strengthening of this sector.

The Ministry will meet the requirements of the tiny and micro enterprises constituting over 95 per cent of the total SSI units in the country.

COMPREHENSIVE POLICY PACKAGE

The ongoing economic reforms based on liberalisation, globalisation and privatisation and the changes at the international economic scene including the emergence of World Trade Organisation (WTO), have brought certain challenges and several new opportunities before the SSI sector. Accordingly a new Ministry of Small Scale Industries and Agro and Rural Industries was created in October 1999. A Group of Ministers constituted in June 2000 considered the recommendations of the interim report of the S P Gupta Study Team constituted by the Planning Commission and came out with a Comprehensive Policy Package for the Small Scale and Tiny Sector.

Small Scale Sector : The investment limit for the SSI sector will continue to be at Rs one crore. The Ministry of SSI will bring out a specific list of hi tech and export-oriented industries which would require the investment limit to be raised up to Rs five crore to admit of suitable technology upgradation and enable them to maintain their competitive edge. The exemption for excise duty limit for small scale sector has been raised from Rs 50 lakh to Rs one crore. The composite loans limit has been raised from Rs 10 lakh to Rs 25 lakh. The eligibility limit for coverage under the Credit Guarantee Scheme has been revised to Rs 25 lakh from Rs 10 lakh. The Integrated Infrastructure Development (IID) Scheme has been made to cover all areas with 50 per cent reservation for rural areas in the country. The Ministry will draw up a scheme for upgrading the industrial estates, which are languishing, for consideration of the Planning Commission. The funds available under the non-lapsable pool for the North-East will be made use of for setting up of incubation centres, for cluster development and for setting up of IIDs in the North-East including Sikkim. To encourage total quality management, the scheme of granting Rs 75,000 to each unit for opting ISO

9000 certification will continue till the end of the tenth Plan. SIDCO will have a Market Development Assistance (MDA) programme similar to that of the Ministry of Commerce. It will be a Plan scheme to support the Handloom Sector. *Dendrayal Hatthikangly Trust* has been announced. The scheme with a total financial outlay of Rs 147 crore will provide financial and infrastructural support to the weavers.

Tiny Sector The investment limit for the tiny sector will continue to be Rs 25 lakh. Under the Prime Minister's *Ujjwala Yojana*, the family income eligibility limit of Rs 24,000 has been raised to Rs 40,000 per annum. The Nayak Committee's recommendations regarding provision of 20 per cent of the projected turnover as working capital, being recommended to financial institutions and banks. In respect of tiny units, 20 per cent of the projected annual turnover would qualify for working capital loan. The IIO Scheme will progressively cover all areas in the country with 50 per cent reservation for rural areas. Under the Scheme, 5 per cent of the plots will be earmarked for the tiny sector.

Under the National Programme for Rural Industrialisation, cluster development is being taken up by KVIC, SIDCO, SIIPI and NABARD. The major beneficiaries of cluster development programme will be tiny sector units. The sponsoring organisation for each cluster will provide for design development, capacity building, technology intervention and consortium marketing. A cluster development fund will be created under the Plan.

TABLE 2.2. PERFORMANCE OF SMALL SCALE SECTOR

Year	Units (in lakh)	Production (at current prices)	Value added (at current prices)	Employment (in lakh)	Export Revenue (at current prices)
1970-71	27.74	4,000.0	1,000.0	10.00	50.00
1971-72	28.00	4,200.0	1,100.0	10.50	55.00
1972-73	28.34	4,400.0	1,200.0	11.00	60.00
1973-74	28.70	4,600.0	1,300.0	11.50	65.00
1974-75	29.00	4,800.0	1,400.0	12.00	70.00

1. Provisional

2. Projected

21 Commerce

FOREIGN trade has played a crucial role in India's economic development. During 1998-99, exports covered over 9,300 commodities to about 220 countries while imports were from about 180 countries of over 8,250 commodities. Exports cover a wide range of items in the agricultural and industrial sectors as also handloom, cottage and handicraft articles. Project exports which include consultancy, civil construction and turn key contracts have also made a significant progress in the recent years. Computer software exports have also increased significantly. Imports have increased substantially, bulk of which comprise items like petroleum and petroleum products, fertilizers, precious and semi-precious stones for export production and capital goods, raw materials, consumables and intermediates for industrial production and technological upgradation.

VALUE OF FOREIGN TRADE

The total turnover of foreign trade (imports plus exports including re-exports) has been steadily rising since the beginning of the planning era in India. Value of trade increased from Rs 1,214 crore in 1950-51 to Rs 3,67,507.58 crore in 1999-2000. Value of imports, exports, total trade and balance of trade from 1990-91 to 1999-2000 is given in the table 21.1.

During 1999-2000 India's total exports amounted to Rs 1,62,924.92 crore as compared to Rs 1,39,753.14 crore during 1998-99, registering a growth of 16.6 per cent. In dollar terms the growth rate was 13.2 per cent. At the same time, imports increased from Rs 1,78,331.85 crore in 1998-99 to Rs 2,04,582.66 crore during 1999-2000 thereby registering a growth of 14.7 per cent. In dollar terms imports increased by 11.4 per cent. In rupee terms the trade deficit in 1999-2000 was Rs 41,657.74 crore against Rs 38,578.71 crore during 1998-99.

DIRECTION OF EXTERNAL TRADE

India has export and import links with all the regions of the world. Region and sub-regionwise direction of India's exports and imports during 1998-99 and 1999-2000 is outlined in table 21.2.

During 1999-2000, Asia and Oceania accounted for 37.3 per cent of India's total exports, followed by West Europe (27.7 per cent), America (26.1 per cent), Africa (5.2 per cent) and East Europe (3.5 per cent). During the year Asia and Oceania were the largest suppliers of goods and accounted for 45 per cent of India's imports followed by West Europe 28.9 per cent, America 10.3 per cent, Africa 13.6 per cent and East Europe 2.1 per cent.

TABLE 21.1 : FOREIGN TRADE IN INDIA

(Rs crore)

Year	Exports	Imports	Total value of foreign trade	Balance of trade
1990-91	32,557.63	43,192.86	75,750.49	10,635.23
1991-92	44,041.81	47,850.84	91,892.65	3,809.03
1992-93	53,688.25	63,374.52	1,17,062.77	9,686.27
1993-94	69,751.39	73,101.01	1,42,852.4	3,349.62
1994-95	82,674.11	89,970.66	1,72,644.77	7,296.55
1995-96	1,06,353.34	1,22,678.14	2,29,031.48	16,324.80
1996-97	1,18,817.08	1,38,919.68	2,57,736.76	20,102.60
1997-98	1,30,100.64	1,54,176.30	2,84,276.94	-24,075.66
1998-99	1,39,753.14	1,78,331.85	3,18,084.99	-38,578.71
1999-2000	1,62,924.92	2,04,582.66	3,67,507.58	-41,657.74

Source: DGCI&S, Calcutta

EXPORTS

Exports have shown an increasing growth trend and diversification of its base over the years. While there are year-to-year variations, the commodities whose exports have been increasing over the last few years include plantations, marine products, ores and minerals, electronics, gems and jewellery, chemical and allied products, engineering goods, textiles and handicrafts and carpets. However, during 1999-2000 negative growth in exports has been witnessed in respect of items like plantations, agriculture and allied products, leather and manufactures, sports goods and project goods. Exports of principal commodities during 1999-2000 as compared to the corresponding period of previous year are given in table 21.3.

IMPORTS

Imports are effected to meet the essential requirements of domestic consumption, investment and production. Bulk imports as a group registered a growth of 35.2 per cent during 1999-2000 and accounted for 36.5 per cent of the total imports. This group includes fertilizers, cereals, edible oils, newsprint and petroleum products. The other principal imports consist of pearls, precious and semi-precious stones, machinery, project goods, medicinal and pharmaceutical products, organic and inorganic chemicals, coal, coke and briquettes, artificial resins, etc. The details of Indian imports of principal commodities during 1998-99 and 1999-2000 are given in table 21.4.

TABLE 21.2 : DIRECTION OF INDIA'S FOREIGN TRADE

(Rs in crore)

Region/Sub Region	Export		Imports	
	1998-99	1999-2000	1998-99	1999-2000
I. West Europe	40,082	45,132	58,207	59,175
a) European Common Market	36,361	40,954	43,274	44,872
b) European Free Trade Area Countries	2,871	3,121	14,515	13,863
c) Europe (Rest of)	850	1,057	419	440
II. Asia and Oceania	51,177	60,773	80,374	92,138
III. Africa	8,707	8,512	16,040	27,781
IV. America	34,775	42,517	20,002	21,068
a) North America	32,279	39,558	16,937	17,333
b) South America	1,570	1,602	2,577	3,453
c) Other America	926	1,358	488	282
V. East Europe	4,433	5,659	3,635	4,355

TABLE 21.3 : EXPORT OF PRINCIPAL COMMODITIES

(Rs in crore)

Commodities	1998-99	1999-2000	Percentage
			change
Plantations	3,993	3,130	-21.61
Agricultural and allied products	16,819	15,500	-7.84
Marine products	4,369	5,114	17.06
Ores and Minerals	3,759	3,929	4.53
Leather and manufactures	6,987	6,666	-4.59
Sports goods	308	280	-9.27
Gems & Jewellery	24,945	33,089	32.65
Chemical and related products	17,522	20,516	17.09
Engineering goods	16,007	18,947	18.37
Electronics hardware	2,115	2,454	16.04
Project goods	301	68	-77.33
Textiles	35,014	40,097	14.52
Handicrafts	2,664	2,905	9.05
Carpets	2,287	2,628	14.91
Petroleum products	376	130	-65.47
Unclassified exports	1,723	7,358	326.97

TABLE 21.4 : IMPORT OF PRINCIPAL COMMODITIES

(Rs in crore)

Commodities	1998-99	1999-2000	Percentage change
A. Bulk Imports	55,663	75,236	35.16
i) Cereals	1,210	579	-52.18
ii) Fertilizers	4,528	6,007	32.65
iii) Newsprint	1,072	879	-17.97
iv) Petroleum Crude & Petroleum Products	26,919	45,421	68.73
v) Edible Oil	7,589	7,984	5.20
vi) Pulp and waste paper	991	1,069	7.89
vii) Non-Ferrous metals	2,513	2,357	-6.24
B. Pearls precious and Semi precious Stone	15,820	23,296	47.26
C. Machinery	19,397	17,738	-8.56
D. Project Goods	11,309	3,832	-66.1
E. Others of which:	76,143	84,481	10.95
i) Organic and Inorganic chemicals	11,290	12,476	10.50
ii) Coal, coke and briquettes	4,121	4,294	4.17
iii) Medicinal and pharmaceutical products	1,615	1,502	-6.99
iv) Artificial resins, etc.	2,843	3,060	7.65

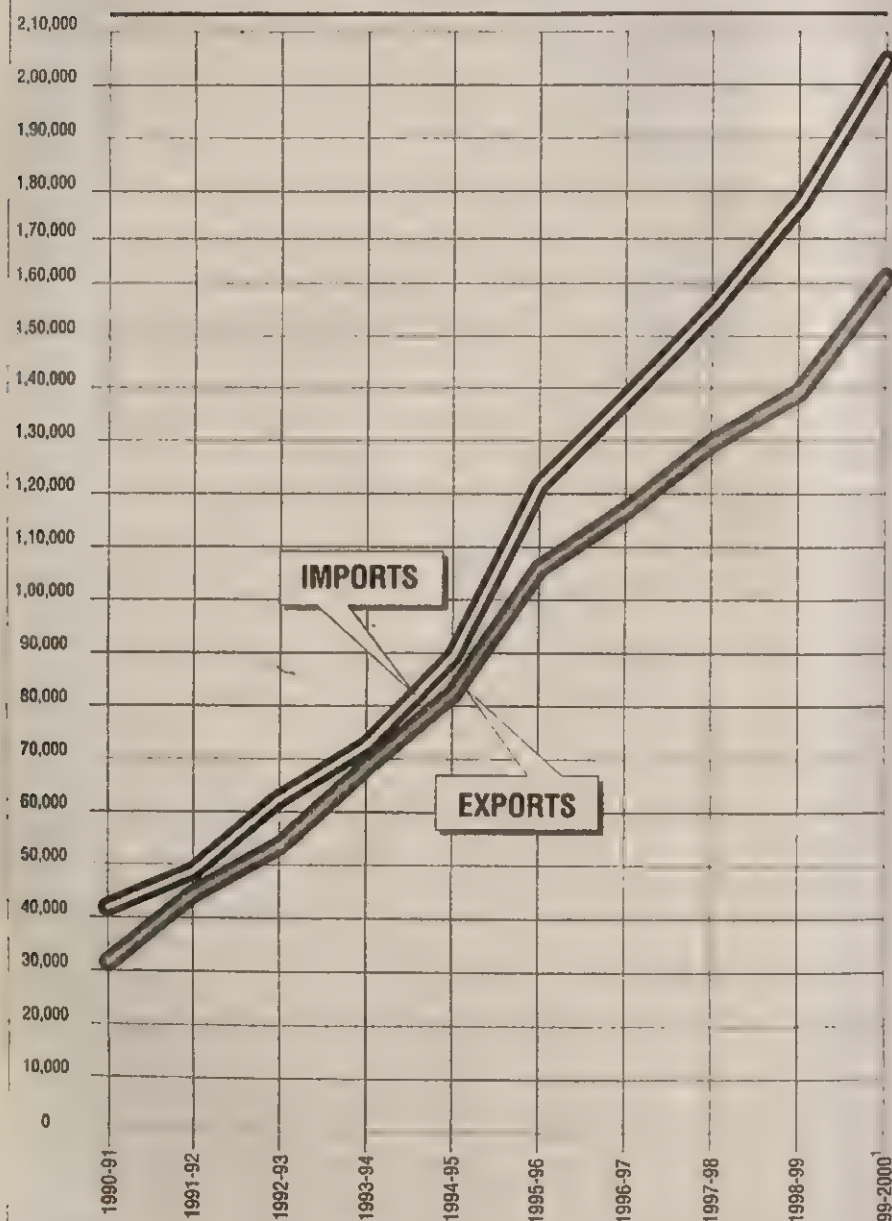
EXPORT PROMOTION

India's trade policy was primarily aimed at regulating imports having regard to the nascent stage of the country's development and the need to encourage domestic production through import-substitution measures. However, with the onset of liberalization, the importance of globalization through trade and making exports the engine of growth of the economy has been recognised.

Export-promotion is now a continuous and sustained effort. Specific steps in this direction have been taken resulting in significant achievements. Trade Policy reforms like specification and streamlining of procedures have created a fair environment of trade, strengthened export production base and removed procedural irritants; imports are being gradually liberalised to facilitate flow of raw materials and inputs of the exports sector and as a part of our commitment to World Trade Organisation (WTO). India is a founder

INDIA'S FOREIGN TRADE

RUPEES CRORE



¹ Provisional
Source: DGCI & S, Calcutta.

KBK

member of WTO. The regional bilateral initiatives include a comprehensive agreement with European Commission, Indo-US Commercial Alliance, operationalisation of SAARC Preferential Trading Arrangements (SAPTA), Bangkok Agreement and efforts to promote an Indian Ocean Rim Bloc.

A Free Trade Agreement (FTA) signed between India and Sri Lanka in 1998 became operational early this year. Bangladesh-India-Myanmar-Sri Lanka-Thailand-Economic Cooperation (BIMST-EC) is also gaining momentum. In its meeting held in April 2000 in New Delhi, it was decided to establish a clear work programme to implement the shared vision for a Free Trade Agreement in the BIMST-EC Region.

IMPORT POLICY

Capital goods, raw materials, intermediate components, consumables, spare parts, accessories, instruments and other goods which are importable without any restriction may be imported by any person. However, if such imports require licences, the actual user alone may import such goods unless the actual user condition is specifically dispensed with by the licensing authorities. Second-hand capital goods of less than 10 years old may be allowed to be imported without obtaining any licence on surrender of SIL.

EXPORT-IMPORT POLICY

The new Exim Policy 1997-2002 seeks to consolidate the gains of the previous policy and carries forward the process of liberalisation. There has been consistent efforts to deregulate and simplify procedures, to remove quantitative restrictions in a phased manner and create a congenial environment for the exporting community. The export promotion capital goods scheme has been extended to all the sectors and to all capital goods without any threshold limit on payment of 5 per cent of duty. It has also been extended to the identified service sectors. No additional customs duty/countervailing duty is required to be paid. In all cases export obligation fulfilment period is being extended to eight years.

The earlier duty exemption scheme has been widened to include post export duty-free replenishment licence scheme for enabling import of input on the basis of input-output norms. The scheme would be available for more than 5,000 such items where input-output norms exceeds on the basis of unit value addition of 33 per cent. The duty exemption scheme has, therefore, now been renamed as duty exemption/remission scheme. The pre-export DEPB scheme has been abolished. However, post-export DEPB scheme has been retained. The DEPB rates has been rationalised in tune with the changes made in the customs duty. The threshold limit of Rs 20 crore for individual DEPB rates has been removed. Advance licences for physical exports, domestic supply and intermediate supply for exports will be subjected to actual user conditions and made non-transferable. Advance licences for actual requirement are to continue.

Deemed export benefits have been rationalised so as to extend uniform benefits to eligible categories under deemed exports. Further deemed export benefits have been extended to : (i) core infrastructural sectors involving investment of Rs 100 crore and above like Coal and hydrocarbon; (ii) to supply to projects funded by UN agencies; and (iii) to power sectors even for modernisation and for renovation of power plants.

SETTING UP SPECIAL ECONOMIC ZONES

Special Economic Zones (SEZ) are to be set up in order to facilitate a hassle-free manufacturing and trading activities for the purpose of exports. The units in these zones shall not be subjected to any pre-determined value addition, export obligation, input output norms. They shall be treated as being outside Customs territory of the country. Sale in Domestic Tariff Area by the Units in these Zones will be permitted only on payment of full Customs Duty.

INITIATIVES RELATING TO E-COMMERCE

Electronic filing of licensing application has been introduced to speed up the export-import related transactions and to bring about transparency in the working of DGFT organisation. Further, with the proposed introduction of electronic data interchange with the other Government organisations, the transaction time and cost shall get reduced substantially.

Bar Coding of packaged export products is also being encouraged in order to introduce international practices for labelling and packaging.

The SIL list will be abolished by 1 April 2001 and the grant of SIL will be discontinued after 31 March 2001. Thus, SIL will not be granted in respect of exports/supplies made on or after 1 April 2000 and such licences issued during this financial year will be valid only up to 31 March 2001.

STATE GOVERNMENTS IN EXPORT PROMOTION

A scheme has been evolved for granting assistance to the States on the basis of their export performance for development of export related infrastructure. To facilitate an equitable allocation of resources, this amount will be distributed on the basis of absolute export performance as well as on the basis of incremental one.

EOU/EPZ/EHTP/STP

The units undertaking to export their entire production of goods may be set up at Export Processing Zones (EPZs). Electronic Hardware Technology Park (EHTP), Software Technology Park (STP) and Export Oriented Units (EOUs), EPZs are special enclaves, separated from the Domestic Tariff Area (DTA) by physical barriers and are intended to provide an internationally competitive duty free environment for export production at a low cost. Recent changes in EOU/EPZ/EHTP/STP scheme include (a) enhancement of tax holiday up to 2010; (b) higher domestic access; (c) rationalisation of minimum Net Foreign

Exchange Earnings as Percentage of exports (NFEP) and minimum export performance; (d) enlargement of the scope of private bonded warehouses in EPZ to include procurement of indigenous goods for exports; and (e) undertaking of job work on behalf of domestic units for direct exports.

EXPORT PROCESSING ZONES

India has seven Export Processing Zones (EPZs at Kandla (Gujarat), Santacruz (Maharashtra), Cochin (Kerala), Chennai (Tamil Nadu), Noida (UP), Falta (West Bengal) and Visakhapatnam (AP). Each zone provides basic infrastructural facilities in addition to a whole range of fiscal incentives. Customs clearance facilities are offered within the zone. The Government has recently permitted development of EPZs by the private, state or joint sectors. The inter-ministerial committee on private EPZs has already cleared the proposals for private EPZs to be set up in Mumbai, Surat, Tirunelveli and Kancheepuram and at Greater Noida by the Government of Uttar Pradesh.

A Centrally-sponsored 'Export Promotion Industrial Parks (EPIP) Scheme has been introduced in August 1994 for involving the State Governments in the creation of infrastructural facilities for export-oriented production. So far 20 proposals for establishment of EPIPs have been sanctioned out of which eight parks have been completed.

The provisional export figures from EPZ units during 1999-2000 is of the order of Rs 6,707.44 crore which is 27.7 per cent higher than the export achieved last year.

COMMERCIAL RELATIONS

The commercial offices attached to India play a vital role in the promotion of India's foreign trade and economic relations. The commercial representatives assist the Government in the formulation of its trade and economic policies through regular feed-back on market trends, trade promotion prospects and the general economic situation of the country to which they are accredited. To keep commercial representatives informed on the important economic policy developments, a 'Newsletter' is brought out by the Ministry.

SOUTH-EAST ASIA

During the year 1999-2000 India's trade with countries in ASEAN and East Asia region at US \$ 9,032 million has registered a growth of 14 per cent as compared to the corresponding figures of US \$ 7,955 million last year. India's exports during 1999-2000 which stand at US \$ 2,732 million has registered a growth of 31 per cent as against US \$ 2,090 million during the corresponding period last year. Similarly, India's imports at US \$ 6,300 million in 1999-2000 has increased by 7 per cent over the figures of US \$ 5,865 million in 1998-99. The principal commodities for export to Australia, New Zealand, Myanmar, Thailand and Philippines include oil meals, gem and jewellery, electronic goods, cotton/fabrics, made-ups, machinery and instruments, primary and semi-finished iron and steel, drugs and pharmaceuticals, meat, etc. The major

commodities imported from this region are coal/coke, briquettes, vegetable oils, electronic goods, organic chemicals, machinery except electrical machinery, wood and wood products, non-ferrous metals, raw wool, pulses, wheat, electrical machinery, etc.

In consonance with India's 'Look East Policy' and her having become a Full Dialogue Partner with ASEAN, ASEAN-India Working Group on Trade and Investment (ASEAN-India WGTI) was established under the aegis of the ASEAN-India Joint Cooperation Committee to give a major fillip to India's relationship with ASEAN in trade and investment which are major areas of focused cooperation with ASEAN. Its 3rd meeting was held on 21-22 March 2000 in New Delhi.

WEST ASIA AND NORTH AFRICA

During 1998-99, exports to West Asian and North African (WANA) countries were US \$ 4.19 billion and imports were US \$ 7.74 billion. During the first ten months of 1999-2000, exports to this region amounted to US \$ 3.69 billion and imports to this region amounted to US \$ 7.71 billion. The balance of trade is not in favour of India because of import of large quantities of crude oil from this region. This region is also an important source of supply of some important agricultural and industrial inputs required in India, viz., fertilizers, rock phosphate, etc. It holds considerable promise for the growth of India's exports, particularly in processed foods, drugs and pharmaceuticals and gems and jewellery sectors. India has trade agreements with Egypt, Iraq, Iran, Afghanistan, Jordan, Kuwait, Libya, Algeria, Yemen, Israel, Saudi Arabia, Bahrain, Sudan, Morocco, Syria and Tunisia. India is also having joint commissions with some of these countries for devising measures for improving and diversifying trade flows.

CIS COUNTRIES AND BALTIC STATES

This region comprises of 15 countries namely Russia, Ukraine, Armenia, Azerbaijan, Georgia, Belarus, Moldova, Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Turkmenistan, Latvia, Lithuania and Estonia. Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan are known as Central Asian Republics and Latvia, Lithuania and Estonia are known as Baltic States.

India's trade with erstwhile Soviet Union in 1990-91 was Rs 7,803 crore while in 1998-99 the total trade between India and the countries of this region was Rs 6,403.26 crore. In the year 1999-2000 (April-December) the total trade stands Rs 6,301.33 crore. Indo-Russian bilateral trade accounts for about 90 per cent of India's total trade with countries of this region.

AFRICA

India has taken several measures to increase bilateral cooperation and joint ventures with sub-Saharan African countries. Trade agreements have been signed with 21 countries, namely, Burkina Faso, Ethiopia, Ghana, Angola, Cameroon, Ivory Coast, Kenya, Liberia, Mozambique, Namibia, Nigeria,

Rwanda, Senegal, South Africa, Uganda, Zambia, Zaire, Zimbabwe, Seychelles, Tanzania and Mauritius. Almost all these agreements provide for constitution of bilateral trade committee for periodical review of trade and co-operation. India has a total of 77 joint ventures in sub-Saharan Africa. Major items of exports from India are cotton yarn, fabrics, drugs, pharmaceuticals & fine chemicals, machinery & instruments, readymade garments, transport equipments, rice, primary and semi-finished iron and steel, consultancy services, chemicals & allied products, etc.

NORTH AMERICA

The United States is India's largest single trading partner. In 1998-99, exports to the US were of the order of Rs 30,841.56 crore and imports from the US were of the order of about Rs 15,319.25 crore. During April-January 1999-2000, India's exports to USA at Rs 29,619.41 crore have registered a growth of more than 19 per cent; whereas the imports from USA at Rs 13,523.30 crore have registered a growth of more than 8 per cent, over the corresponding period of previous year. The dollar value of the two-way trade has been increasing since 1991-92. India's major exports to US include gems and jewellery, RMG cotton including accessories, cotton yarn, fabrics, handicrafts (excluding handmade carpets), manufactures of metals, cashew, carpet handmade, RMG man-made fibres, primary & semi-finished iron and steel, marine products, drugs-pharmaceuticals & fine chemicals machinery and instruments, etc. Major imports from US include fertilizers manufactured, electronics goods, machinery except electric & electronic, organic chemicals, pearls, precious & semi-precious stones, project goods and professional instruments, etc.

Indian trade with Canada is very modest. During 1998-99, exports to Canada were of the order of around Rs 2,005.70 crore and imports were of the order of Rs 1,559.88 crore. During April-January 1999-2000, India's exports to Canada at Rs 2,044.17 crore have registered a growth of more than 28 per cent while imports from Canada at Rs 1,271.48 crore have registered a decline of 6.76 per cent over the corresponding period of the previous year. The major items of exports include RMG cotton including accessories, cotton yarn, fabrics, primary and semi-finished iron and steel, gem & jewellery, drugs, pharmaceuticals & fine chemicals, spices, manufacture of metals, etc., while imports include news print, pulp & waste paper, vegetable oils fixed (edible), fertilizers manufactured, other crude minerals, electronic goods & non-ferrous metals, pulses, etc.

SOUTH AMERICA

India's exports to South America and Caribbean region were of the order of US \$ 749.02 million and India's imports from this region were of the order of US \$ 677.56 million during 1998-99. During April-December, 1999-2000, India's exports to this region at US \$ 517.03 million have registered a growth of 10.53 per cent and the imports from the region at US \$ 618.48 million have registered a growth of about 18.60 per cent, over the corresponding period

of the previous year. Despite various constraints, India's exports to the region have shown a healthy rate of growth in the recent years. This is largely the result of trade and industry responding to the lowering of tariffs and non-tariff barriers in many of the Latin American countries and special thrust of the Government through the FOCUS:LAC Programme to enhance trade with this region. Argentina, Brazil, Chile, Peru, Mexico, Panama, Colombia, Venezuela and Uruguay are India's major export markets in the region. Exports to the region include textiles and readymade garments, drugs and pharmaceuticals, engineering goods such as bicycles and components thereof, two-wheelers, automotive components, diesel engines, hand-tools, leather and leather manufactures, dyes, intermediates, etc. Our imports from the region include crude minerals, iron and steel and their products, non-ferrous metals, metaliferrous ores, vegetables oils, pulp and paper waste, raw wool, etc.

WEST EUROPE

West Europe is the major trading partner accounting for about 28 per cent of India's total exports and 29 per cent of imports in 1999-2000. It comprises countries in the European Union (Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxemburg, Netherlands, UK, Spain, Portugal, Austria, Finland and Sweden), European Free Trade Association (EFTA) countries (Norway, Switzerland, Iceland and Liechtenstein) in addition to Turkey, Malta and Cyprus. Turkey has since joined the customs union of the European Union (EU). A major part of India's total exports to West European region is accounted for by just eight countries viz., Germany, UK, Belgium, Italy, France, Netherlands, Spain and Switzerland. Hence, most of the markets in this region are relatively unexplored. The main items of export to West Europe comprise textiles, yarn fabrics, engineering goods, software, besides agricultural and marine products. Imports from the region are generally manufactured products, especially plant and machinery, chemicals, steel and transport equipment. During 1999-2000, EU countries accounted for nearly 25 per cent of exports and 22 per cent of imports of India's global trade. While efforts are being made to expand India's trade with EU member countries there are certain hurdles posed by EU in the shape of anti-dumping/anti-subsidy investigations leading to imposition of countervailing duties and other trade barriers put in place, obstructing market access.

CENTRAL AND EAST EUROPEAN COUNTRIES

India has traditionally enjoyed close and multi-faceted relations with most of the countries of Central and Eastern Europe. However, the transition from centrally planned, socialist economies to market-oriented economies, collapse of old trading arrangements, severe liquidity constraints in these countries, fragmentation of retail markets, high interest rates which discourage long distance trading on L/c basis, an increase in demand for sophisticated packaging and quality goods, competition from other countries/regions like, China, Turkey and European Union and image problems of Indian goods,

were responsible for decline in bilateral trade between India and Eastern and Central European countries. The total trade which was around US \$ 776.73 million during 1990-91 decreased to US \$ 400.89 million in 1998-99. The exports from India to the Central and Eastern European countries has also declined from US \$ 222.20 million in 1998-99 to US \$ 152 million during 1999-2000.

JOINT VENTURES

Proposals from Indian companies for overseas direct investment in joint ventures and wholly owned subsidiaries are being considered in the Reserve Bank of India Central Office, Mumbai. The investment approved by the RBI are well diversified in terms of their destination countries. Approvals have been given to set up a large number of trading concerns meant for promoting India's exports in the field of textiles and garments, besides marine products, leather and electrical goods. In the manufacturing sector approvals have been given for different sectors such as iron and steel, drugs and pharmaceuticals, yarn and textiles, garments, cement and sugar. A number of approvals have been given for setting up units in the field of computer software.

PUBLIC SECTOR AGENCIES

The Minerals and Metals Trading Corporation of India Limited (MMTC), established in 1963, occupies a prominent position in India's foreign trade. Export of iron, manganese and chrome ores, and among finished fertilizers, only import of urea is canalised. It continues to be the largest non-oil importer of the country and has made considerable headway in increasing its imports. It has also emerged as the largest bullion trader in the sub-continent, importing and selling the largest quantity of gold and silver.

The Mica Trading Corporation of India Limited (MITCO) was incorporated in 1973 as a wholly owned subsidiary of MMTC to look after the business of mica exclusively. Due to the steady decline in turnover which had turned negative, BIFR ordered merger of MITCO with MMTC from 1 April 1995.

State Trading Corporation of India Limited is a premier international trading company owned by the Government of India. Set up in 1956, it undertakes export, import and domestic trade in a number of items in competition with the private trade and industry. It also imports many mass consumption items entrusted to it by the Government of India in view of domestic shortages. Its turnover is estimated at Rs 1,339 crore in 1999-2000 and net worth as on 31 March 2000 is Rs 467 crore.

Project and Equipment Corporation of India Limited (PEC) is a public sector enterprise under the Ministry of Commerce. From being a canalising agency for the export of Railway Rolling Stock, PEC has established itself as a leading exporter of semi-turnkey projects and engineering equipment. More recently, it has also diversified itself into other trading activities such as third-country trade, commodity exports and imports of raw material to support export activities of associate manufacturers. PEC's turnover during 1999-2000 is Rs 1,200 crore (provisionally).

Export Credit Guarantee Corporation Limited was originally set up as Export Risk Insurance Corporation in July 1957. It was transformed into Export Credit and Guarantee Limited in 1964. In December 1983, it was renamed as Export Credit Guarantee Corporation of India Limited. The primary objective of the Corporation is to promote exports from India by providing export credit insurances and guarantee facilities to the Indian exporters and commercial banks.

Spices Trading Corporation Limited, formerly known as Cardamom Trading Corporation Limited was incorporated under the Companies Act, 1956 in October 1982, but the actual trading activities commenced from September 1983. The main objectives of the Corporation are : to carry on domestic and international trade in spices and its products; to process and cure spices and manufacture its products; to support, project, maintain, increase and promote the production of its products and to promote research and development of spices and its products.

AUTONOMOUS BODIES

There are a number of autonomous bodies under the Ministry of Commerce connected with the development of exports and export promotion activities.

There are five statutory Commodity Boards responsible for the production, development and export of tea, coffee, rubber, spices and tobacco. Export Inspection Council, Delhi a statutory body, is responsible for enforcement of quality control and compulsory pre-shipment inspection of various exportable commodities.

Indian Institute of Foreign Trade, New Delhi, a registered body, is engaged in training of personnel in modern techniques of international trade; organisation of research in problems of foreign trade; organisation of marketing research, area surveys, commodity surveys, and dissemination of information arising from its activities relating to research and market studies.

Indian Institute of Packaging, Mumbai, a registered body set up on 14 May 1966, undertakes research on raw materials for packaging industries, organises training programmes on packaging technologies and stimulates consciousness on the need for good packing, etc.

There are at present 20 export promotion councils, out of which 11 are under the Ministry of Commerce. They are non-profit organisations registered under the Companies Act/Society Registration Act. They promote and develop the exports of the country. Each council is responsible for the promotion of a particular group of products, projects and services.

Agricultural and Processed Food Products Export Development Authority (APEDA), which came into existence in 1986, acts as focal point for agricultural exports and concentrates on marketing of processed foods in value-added form. It also introduces effective quality-control measures.

Marine Product Export Development Authority, Cochin, a statutory body

set up in August 1972, is responsible for the development of marine products industry with special reference to exports.

Federation of India Export Organisation, New Delhi is an apex body of various export promotion organisations and institutions. It functions as primary servicing agency to provide integrated assistance to the Government recognised export houses and as a central coordinating agency in respect of export promotional efforts in the field of consultancy services in the country.

Indian Councils of Arbitration, New Delhi set up under the Societies Registration Act, promotes arbitration as a means of settling commercial disputes and popularising arbitration among traders, particularly those engaged in the international trade.

Trade Development Authority (TDA) has been merged with the Trade Fair Authority of India (TFAI) to form a new organisation under the name of India Trade Promotion Organisation (ITPO) in January 1992. The main objectives of the Organisation are to develop and promote exports, imports and upgradation of technology through the medium of fairs to be held in India and abroad, to undertake publicity through the print and electronic media, to assist Indian companies in meets, contact promotion programmes and integrated marketing programmes for specific products in specific markets.

National Centre for Trade Information (NCTI), a specialised organisation utilizing modern methods of storage and collection of trade data was set up in March 1995. The objectives of this organisation are to establish linkages with export promotion bodies and collection, value-addition and dissemination of trade data among interested parties. It interacts with Indian missions abroad and overseas trade information bodies. It is the focal trade point of India and promotes international trade through E-Commerce.

22 Transport

A well-knit and coordinated system of transport plays an important role in the sustained economic growth of the country. The present transport system of the country comprises several modes of transport including rail, road, coastal shipping, air transport, etc. Transport has recorded a substantial growth over the years both in spread of network and in output of the system. The Ministry of Surface Transport is responsible for the formulation and implementation of policies and programmes for the development of various modes of transport save the railways and the civil aviation.

RAILWAYS

The railways in India provide the principal mode of transportation for freight and passengers. It brings together people from the farthest corners of the country and makes possible the conduct of business, sightseeing, pilgrimage and education. Indian Railways have been a great integrating force during the last hundred years. It has bound the economic life of the country and helped in accelerating the development of industry and agriculture. From a very modest beginning in 1853, when the first train steamed off from Bombay to Thane, a distance of 34 km, Indian Railways have grown into a vast network of 6,896 stations spread over a route length of 62,809 km with a fleet of 7,429 locomotives, 35,650 passenger service vehicles, 5,125 other coaching vehicles and 2,53,186 wagons as on 31 March 1999. The growth of Indian Railways in the 146 years of its existence is thus phenomenal. It has played a vital role in the economic, industrial and social development of the country. The network runs multigauge operations extending over 62,809 route kilometre. The gauge-wise route and track lengths of the system as on 31 March 1999 were as under:

Gauge	Route km	Running track km	Total track km
Broad Gauge (1,676 mm)	44,216	62,184	85,429
Metre Gauge (1,000 mm)	15,178	15,875	19,158
Narrow Gauge (762 mm and 610 mm)	3,415	3,452	3,826
Total	62,809	81,511	1,08,413

About 22 per cent of the route kilometre, 32 per cent of running track kilometre and 31 per cent of total track kilometre is electrified. The network is divided into nine zones and further sub-divided into divisions. Divisions are the basic operating units. The nine zones and their respective headquarters as on 31 March 1999 are given below:

Railways	Headquarters
Central	Mumbai
Eastern	Calcutta
Northern	New Delhi
North Eastern	Goorakhpur
Northeast Frontier	Maligaon (Guwahati)
Southern	Chennai
South Central	Secunderabad
South Eastern	Calcutta
Western	Mumbai

Seven new Zones and nine new Divisions are further being set up. The new Zones are :

Zones	Headquarters
East Coast	Bhubaneswar
East Central	Hajipur
North Central	Allahabad
North Western	Jaipur
South Western	Bangalore
West Central	Jabalpur
Bilaspur	Bilaspur

Cooperation between public and railway administration is secured through various committees including Zonal Railway Users' Consultative Committees and Divisional Railway Users' Consultative Committees. The rolling stock fleet of Indian Railways in service as on 31 March 1999 comprised 58 steam, 4,586 diesel and 2,785 electric locomotives. Currently, the railways are in the process of inducting new designs of fuel-efficient locomotives of higher horse power, high-speed coaches and modern bogies for freight traffic. Modern signalling like panel inter-locking, route relay inter-locking, centralised traffic control, automatic signalling and multi-aspect colour light signalling, are being progressively introduced to increase the throughput. Indian Railways have made impressive progress in indigenous production of rolling stock and a variety of other equipment over the years and is now self-sufficient in most of the items.

The main objectives of railways planning has been to develop the transport infrastructure to carry the projected quantum of traffic and meet the developmental needs of the economy. Since the inception of the planned era in 1950-51, Indian Railways have implemented eight Five Year Plans, apart from annual plans in some years. During eight Plans, emphasis was laid on a comprehensive programme of system modernisation. With capacity being stretched to the full, investment in cost-effective technological changes become inescapable in order to meet the ever-increasing demand for rail transport. Along with the major thrust directed towards rehabilitation of assets, technological changes and upgradation of standards were initiated in important areas of track, locomotives, passenger coaches, wagon bogie designs, signalling and telecommunication. Progress of railway traffic and inputs is shown in table 22.1.

PUBLIC UNDERTAKINGS

There are five undertakings under the administrative control of the Ministry of Railways viz., (i) Rail India Technical and Economic Services Limited (RITES); (ii) Indian Railway Construction Company Limited (IRCON); (iii) Indian Railway Finance Corporation Limited (IRFC); (iv) Container Corporation of India Limited (CONCOR); and (v) Konkan Railway Corporation Limited (KRC). Centre for Railway Information System (CRIS) was set up as a registered society to design and implement various railway computerisation projects.

RESEARCH AND DEVELOPMENT

The Research, Design and Standards Organisation (RDSO) at Lucknow is the R & D wing of Indian Railways. It functions as a consultant to the Indian Railways in technical matters. It also provides consultancy to other organisations connected with railway manufacture and design.

RAILWAY FINANCE

Since 1924-25 railway finances remain separated from general revenues. They have their own funds and accounts and the Railway Budget is presented separately to Parliament. However, the railways contribute to the general revenue a dividend on the capital invested. Quantum of contribution is reviewed periodically by a Parliamentary Convention Committee.

ROLLING STOCK

Over the years Indian Railways have made concerted efforts to achieve self-sufficiency in production of rolling stock in the country. Locomotives are built in Chittaranjan Locomotive Works (CLW), Chittaranjan, Diesel Locomotive Works (DLW), Varanasi and BHEL, Bhopal, a public sector company which has developed capability to manufacture electric locomotives for the Indian

TABLE 22.1 : PROGRESS OF RAILWAYS TRAFFIC AND INPUTS

Year	Route Length (Kilometre) Electrified	Non- Electrified	Total	Running track (km)	Passengers originating (lakh)	Total goods originating (lakh tonne)	Steam	Number of locomotives Diesel	Electric	Number of Coaching vehicles	Number of wagons
1950-51	388	53,208	53,596	59,315	12,840	930	8,120	17	72	19,628	2,05,596
1960-61	748	55,499	56,247	63,602	15,940	1,562	10,312	181	131	28,439	3,07,907
1970-71	3,706	56,081	59,790	71,669	24,311	1,965	9,387	1,169	602	35,145	3,83,990
1980-81	5,345	55,895	61,240	75,860	36,125	2,200	7,469	2,403	1,036	38,333	4,00,946
1990-91	9,968	52,399	62,367	78,607	38,576	3,414	2,915	3,759	1,743	38,511	3,46,102
1991-92	10,653	51,805	62,458	78,969	40,486	3,600	2,492	3,905	1,871	39,350	3,46,394
1992-93	11,064	51,422	62,486	79,200	37,494	3,709	1,725	4,069	2,012	39,924	3,37,562
1993-94	11,260	51,202	62,462	79,188	37,080	3,775	911	4,192	2,117	40,053	3,12,405
1994-95	11,772	50,888	62,660	79,495	39,150	3,816	358	4,259	2,302	39,214	2,91,360
1995-96	12,306	50,609	62,915	80,441	40,180	4,055	209	4,313	2,387	39,308	2,60,791
1996-97	13,018	49,707	62,725	80,754	41,530	4,234	85	4,363	2,519	39,257	2,72,127
1997-98	13,490	49,005	62,495	80,908	43,480	4,455	64	4,496	2,646	40,166	2,63,981
1998-99	13,765	49,044	62,809	81,511	44,110	4,416	58	4,586	2,785	40,775	2,53,186

Railways. In 1998-99, CLW manufactured 165 broad-gauge electric locomotives, DLW produced 161 broad-gauge diesel locomotives (including 4 locos for public sector units). Diesel Component Works (DCW) has been set up by the railways at Patiala for manufacturing and repairs of components of diesel locos and sub-assemblies. The project has attained the rated capacity for manufacture of components for diesel engines, its repairs and rebuilding of diesel locomotives. The bulk of passenger coaches are manufactured in Integral Coach Factory (ICF), Perambur, Chennai and Rail Coach Factory, Kapurthala. Integral Coach Factory (ICF) manufactured 1,057 fully furnished coaches and the new Rail Coach Factory (RCF) set up at Kapurthala produced 1,087 coaches in 1998-99. In addition to ICF and RCF, there are two more units in public sector, viz., M/s Jessops, Calcutta and Bharat Earth Movers Limited (BEM), Bangalore, which also manufacture coaches and electrical multiple units. A wheel and axle plant has been set up at Bangalore to cut down imports in this field. The plant performed excellently during 1998-99 and helped the railways to save valuable foreign exchange.

Railway production units are striving to develop new products for the Indian Railways. AC 3-Tier coach has been manufactured by RCF which would make AC travel cheaper and comfortable. Further, production of 5000 HP electric locomotives and fuel efficient diesel locomotive have also commenced at Chittaranjan Locomotive Works and Diesel Locomotive Works respectively. Diesel multiple units for suburban non-electrified routes and mainline electric multiple units for electrified sections have been manufactured by Integral Coach Factory, Chennai.

PASSENGER TRAFFIC

Passengers originating had risen from 1,284 million in 1950-51 to 4,411 million in 1998-99 and passenger kilometre from 66.52 billion in 1950-51 to 404 billion in 1998-99. Despite constraint of resources, the railways have been able to cope with increasing demand of passenger traffic. Railways are the premier mode of passenger transport both for long distance and suburban traffic. During 1998-99, Indian Railways introduced 149 new trains, extended the run of 106 trains and increased the frequency of 48 trains in non-suburban sector. Similarly, in the suburban sector, railways introduced 17 new trains. Besides, 16 DMU/Diesel Hauled Push Pull trains, 14 EMU services, eight Main line EMU services and 16 Rail Bus services were also introduced during the year.

Northern Railway entered a proud phase in August 2000 when the Delhi Main Station went down in the Guinness World Records as the largest Route Relay Interlocking System (RRIS) in the World, with 11,000 relays allowing up to 1,122 signalled movements.

FREIGHT TRAFFIC

Rapid progress in industrial and agricultural sectors has generated a higher

level of demand for rail transport, particularly in core sectors like coal, iron and steel, ores, petroleum products and essential commodities such as foodgrains, fertilizers, cement, sugar, salt, edible oils, etc. Revenue freight traffic increased from 73.2 million tonnes in 1950-51 to 420.92 million tonnes in 1998-99. Transport effort measured in terms of net tonne kilometres (NTKm) increased from 38 billion in 1950-51 to 281.5 billion in 1998-99. Some of the measures taken for improvement are : (i) line capacity augmentation on certain critical sectors and modernisation of signalling system; (ii) measures such as unit train operation for bulk commodities like coal; (iii) increase in roller-bearing equipped wagons; (iv) increase in trailing loads to 4,500 tonnes; (v) operation 'UNI-GAUGE' on Indian Railways; (vi) strengthening the track structure by providing heavier and stronger rails and concrete sleepers; and (vii) production of prototype electric locomotive of 5000 HP for freight operation by Chittaranjan Locomotive Works.

ROADS

India has one of the largest road networks in the world. The country's total road length as on 31 March 1997 stood at 24,65,877 km excluding those under *Jawahar Rozgar Yojana*. The Ninth Plan laid emphasis on a coordinated and balanced development of road network in the country under (i) primary road system covering national highways; (ii) secondary and feeder road system covering state highways and major district roads; and (iii) rural roads including village roads and other district roads. Substantial outlays were proposed for road development in the rural and tribal areas. Under the Ninth Plan, the allocation is Rs 8,862.02 crore (at 1996 price level) for Central Sector roads programme including Rs 3,576.79 crore (at 1996 price level) for externally aided projects.

NATIONAL HIGHWAYS

The Central Government is responsible for the national highway system totalling a length of 52,010 km. In 1947 approximately 2,500 km of missing road links and thousands of culverts and bridges, which did not exist, were required to be constructed to have an integrated and continuous network. There was an increase in missing road links with addition of new roads to the national highway system in later years. Up to 31 March 1999, road links including diversions, realignments, etc., constructed totalled 4,717 km, widening and strengthening single lane section to double lane carriageway was done in 26,092 km, widening to four-lane completed in 959 km, strengthening of weak two-lane pavement has been done in 15,526.79 km. In addition 579 major bridges and 3,137 minor bridges were also completed. A budget allocation of Rs 2,163.08 crore was made for the year 1999-2000. Besides this additional supplementary grant of Rs 1,900 crore was made

available from cess fund. In the budget estimate for the year 2000-2001 a sum of Rs 2,506 crore has been allocated from the budget and additional amount of Rs 2,010 crore has been made available from the cess account and has been earmarked to National Highway Authority of India (NHAI). Though the national highways constitute only two per cent of the total road length, they carry nearly 40 per cent of road traffic. There are altogether nine on-going external loans for the improvement of National Highways, comprising one loan (US dollar 306 million) from World Bank, three loans (total US dollar 672 million) from Asian Development Bank (ADB) and five loans (total Japanese Yen 36,915 million approximately equivalent US dollar 450 million) from Japan Bank for International Co-operation (JBIC), Japan. The World Bank loan includes six National Highways sub-projects in the States of Punjab, Haryana, Orissa, Maharashtra, Madhya Pradesh and West Bengal and one state highway project for reconstruction of bridges in Orissa. All the sub-projects are in progress. The first ADB loan (US dollar 177 million) provides for development of National Highways in three states, Andhra Pradesh, Haryana and Uttar Pradesh and state highways in Andhra Pradesh, Karnataka and Tamil Nadu. All works have been completed by March 2000. The second ADB (US dollar 250 million) provides for improvement of National Highways in Karnataka, Kerala, and Rajasthan and of state roads in Andhra Pradesh, Orissa, Uttar Pradesh and West Bengal. The NH projects in Karnataka, Kerala, and Rajasthan have been completed by March 2000. The third ADB loan covers National Highways (NH) projects in Andhra Pradesh, Haryana, Rajasthan, Bihar and West Bengal. All the projects are in progress. The project for improvement of Mathura-Agra Section of NH-2 in Uttar Pradesh, which is under one of the five loans of JBIC, is substantially completed. Of the remaining four loans, three are in progress while the contract for one is yet to be signed.

STATE SECTOR ROADS

State highways and district rural roads are the responsibility of State Governments and are maintained by various agencies in States and Union Territories. Roads are being developed in rural areas under Minimum Needs Programme (MNP). The objective of it being to link all villages with a population of 1,500 with all-weather roads. The Government also assists in development of certain-selected roads in States.

LENGTH OF ROADS

The total length of roads in India stood at 24,65,877 km excluding those under *Jawahar Rozgar Yojana* (both surfaced and un-surfaced roads) in March 1997. State-wise break-up of the length of roads is given in table 22.2.

TABLE 22.2 : ROAD LENGTH IN INDIA STATE-WISE

(In km)

	Surfaced	Unsurfaced	Total
STATES			
Andhra Pradesh	1,08,739	69,273	1,78,012
Arunachal Pradesh	3,991	10,101	14,092
Assam	11,590	56,828	68,418
Bihar	32,998	55,354	88,352
Goa	5,695	2,868	8,563
Gujarat	79,380	11,516	90,896
Haryana	25,538	2,626	28,164
Himachal Pradesh	15,143	15,050	30,193
Jammu & Kashmir	8,225	13,221	21,446
Karnataka	99,339	44,673	1,44,012
Kerala	45,249	1,00,455	1,45,704
Madhya Pradesh	88,620	1,11,517	2,00,137
Maharashtra	2,71,684	90,209	3,61,893
Manipur	3,598	7,343	10,941
Meghalaya	3,923	4,557	8,480
Mizoram	1,983	2,846	4,829
Nagaland	5,241	13,115	18,356
Orissa	86,929	1,75,774	2,62,703
Punjab	52,423	11,929	64,352
Rajasthan	76,813	52,861	1,29,674
Sikkim	1,527	307	1,834
Tamil Nadu	1,40,414	66,089	2,06,503
Tripura	4,577	10,152	14,729
Uttar Pradesh	1,48,303	1,07,164	2,55,467
West Bengal	42,558	32,877	75,435
UNION TERRITORIES			
Andaman and Nicobar Islands	1,273	44	1,317
Chandigarh	1,753	0	1,753
Dadra and Nagar Haveli	533	0	533
Daman and Diu	101	0	101
Delhi	24,071	2,511	26,582
Lakshadweep	1	0	1
Pondicherry	1,849	556	2,405
Total	13,94,061	10,71,816	24,65,877

Note : Data given is as on 31 March 1997. It does not include roads constructed under Jawahar Rozgar Yojana.

BORDER ROADS ORGANISATION

Raised in May 1960 for development of roads of strategic importance in the northern and north eastern border areas, the Border Roads Organisation (BRO) completes four decades of dedicated service to the Nation. Since inception up to March 2000 it has completed 28,342 km of formation works, surfaced 32,885 km of roads, executed Rs 2,03,902 lakh worth of permanent works and constructed permanent bridges totalling a length of 15,131 running metres. The BRO in the service of the Nation is a premier construction agency today, not only of roads but of airfields, bridges, buildings, hospitals and schools. The re-surfacing of Goa airfield and surfacing of the airstrip at Shibpur (Andaman & Nicobar Islands) were completed this year. The work on the Tamu-Kalemyo-Kalewa road in Myanmar is progressing with the planned completion in October 2000. Construction of a 275 km long road on NH-16 from Sironcha in Maharashtra to Jagdalpur in Madhya Pradesh commenced in January 2000. A large number of works for the Ministry of External Affairs including terminal works for the Tata Hydel Project, are under execution in Bhutan. A 478 km long road on NH-1A including the two tubes of Jawahar Tunnel, which continues to be a strategic link between J&K State and the rest of the country, is being improved. North Eastern Council (NEC) Roads totalling a length of 212 km are under construction. Several important projects like the CGDA complex at Port Blair, a battalion accommodation for the Assam Rifles at Kaithalmanbi, Manipur, the North Eastern Regional Institute of Science and Technology, Itanagar and eight *Jawahar Navodaya Vidyalayas* in the border states are presently under construction. Last year, the BRO played a major role during 'Operation Vijay' by the early summer snow clearance of roads Srinagar-Zojila-Leh and Manali-Sarchu-Leh as well as the exacting maintenance of these two axes. Maintenance of road communication continued unabated in Kargil sector, despite personnel, vehicles and equipment being subjected to heavy shelling from across the Line of Control. The BRO is presently engaged in the construction of 102 major permanent bridges. So far 180 bridges have been completed. A total number of 19 national highways are in the various stages of development and maintenance under the BRO. A total length of 15,512 km of road is presently under construction and 16,872 km of road is under maintenance of the BRO.

SHIPPING

Shipping plays an important role in India with a vast coastline of about 7,516 km and over 2 million sq km of Exclusive Economic Zone. The country has the largest merchant shipping fleet among developing countries and ranks 17th in the world in shipping tonnage. As on 31 March 2000, the net operative tonnage consisted of 515 ships totalling to 70,65,794 Gross Registered Tonnage (GRT).

SHIPPING COMPANIES

There were 102 shipping companies in the country in operation as on 1 January 2000 including the Shipping Corporation of India, a public sector undertaking and ten other Government agencies. Of these, 65 are engaged

exclusively in coastal trade, 26 in overseas trade, and 11 in both coastal and overseas trade. Shipping Corporation of India which is the biggest shipping line of the country had a merchant fleet of 112 vessels of 29.49 lakh GRT as on 1 March 2000 and operated on almost all maritime routes. Its tonnage account for about 43 per cent of the total Indian tonnage. Major private sector shipping companies which own two lakh or more GRT are: (i) Great Eastern Shipping Company Limited (8.49 lakh GRT), (ii) Essar Shipping Company Limited (5.61 lakh GRT) and (iii) Chowgule Steamship Limited (2.29 lakh GRT).

SHIPPING CORPORATION OF INDIA LIMITED

The Shipping Corporation of India Limited (SCI), a government owned public sector shipping company was formed on 2 October 1961. The present authorised capital of SCI is Rs 450 crore and the paid up capital is Rs 282.30 crore as on 31 March 1999. The equity capital disinvested by government is 19.88 per cent. SCI has a track record of making profits and has been earning substantial return on investment. The gross earning of SCI during 1998-99 was Rs 2,582.37 crore with net profit of Rs. 201.33 crore. SCI owns and operates 112 vessels of 29.49 lakh GRT and 49.65 lakh Dead Weight Tonnage (DWT). The diversified fleet of SCI includes Bulk Carriers, Crude and Product Tankers, General Cargo Vessels, Cellular Container Vessels, Offshore Supply Vessels, Ammonia/LPG Carriers, Phosphoric Acid/Chemical Carriers, Passenger-cum-Cargo Vessels and Timber Carriers. The SCI also mans and manages 26 ships on behalf of Government organisations/departments. The Government has approved equity participation by SCI in the Joint Venture Shipping Company set up with Mitsui OSK Lines Limited and Atlantic Commercial Finance Inc., an affiliate of ENRON for carriage of LNG from Oman and Abu Dhabi to India for the Dabhol Power Company, Maharashtra.

SHIPPING BODIES

The National Shipping Board, which is a statutory body set up under the Merchant Shipping Act, 1958, advises the Central Government on shipping matters. The Board meets periodically. The Board has been re-constituted for its next 2-year term with effect from 28 June 1999.

COASTAL SHIPPING

Coastal Shipping is an energy efficient, environment friendly and economical mode of transport in the inland transport network and a crucial component for development of domestic industry and trade. India has 7,516.6 km long coastline studded with 11 major and 139 minor and intermediary ports providing congenial and favourable conditions for the development of domestic transport infrastructure.

The coastal fleet in the country consists of 274 ships with 6,81,762 GRT as on 29 February 2000. The recommendations of the Afzulpurkar Committee on Development of Coastal Shipping have been implemented by issuing three

notifications under the Customs Act. Committee's Port-related recommendations are being pursued. The proposal to amend the Merchant Shipping Act, 1956 will address the recommendation for lower manning scales for coastal shipping.

The general control over all Aids to Marine Navigation is exercised by the Central Government through the Department of Lighthouse and Lightships under the Lighthouse Act 1927. The Director General of Lighthouses & Lightships is the Chief Advisor to the Government of India on all Aids to Marine Navigation and the Department also undertakes establishment/improvement of aids to navigation on agency basis. The Department has a Training Centre at Calcutta.

The total Ninth Plan outlay for the Department of Lighthouses and Lightships is Rs 123 crore. The approved Plan outlay for 2000-2001 is Rs 15.25 crore. The important Plan schemes of the Department at present are Automation of Lighthouses in Saurashtra & Kutch region, Differential Global Positioning System (DGPS) Phase-II and Coastal Vessel Traffic Service (CVTS) to be established in the Gulf of Kachch.

TRAINING INSTITUTES

The Lal Bahadur Shastri College of Advanced Maritime Studies and Research, Mumbai attracts a large number of students in marine education and is perhaps the largest in terms of students population among the marine institutions of the world. It offers over 30 post-sea courses, which run almost concurrently. The courses meet the standards of International Maritime Organisation as well as those of the Government of India. There are about 1,000 students on the rolls at any given point of time.

Marine Engineering and Research Institute (MERI), Calcutta conducts a four-year degree course in Marine Engineering with intake capacity of 120 students including 10 seats for foreign nationals per year. MERI, Mumbai conducts six months course for Mechanical Engineering graduates.

Shore-based academy, Training Ship Chanakya, conducts two types of courses (i) three-year degree course leading to B.Sc. in Nautical Science with an intake capacity of 90 students per year including 10 seats for foreign nationals and (ii) three-months pre-sea training course for desk cadets with an intake capacity of 120 cadets per course.

AIDS TO NAVIGATION

Since Independence India has achieved rapid growth in Aids to Marine Navigation. From 17 Lighthouses prior to Independence, the present strength of Aids to Navigation is 167 Lighthouses, one Lightship, 11 Radio Beacons, four Decca Navigator Chain Stations, six Loran-C Chain Stations, 29 Racons, 12 Deep Sea Lighted Buoys and 10 Differential Global Positioning System (DGPS) stations. To cater to the needs of light stations in the islands and for maintaining the buoys, the Department is maintaining three launches, one

mechanised boat and two large ocean going vessels *M.V. Sagardeep* and *M.V. Pradeep*.

SHIP BUILDING

There are four major and three medium size shipyards in India in the public sector. Apart from this, there are about 21 small shipyard in private sector and State Government sector, which cater to domestic requirement for medium and small craft. Maximum size of the vessels that could be constructed in Cochin Shipyard Limited (CSL) and Hindustan Shipyard Limited (HSL) are 1,00,000 DWT and 50,000 DWT respectively. CSL has delivered three tankers each of the capacity of 86,000 DWT to SCI. The third was delivered in May 1999 adopting Integrated Hull Outfit and Painting (IHOP) technology. These were constructed for the first time in the country. Small shipyards are geared up for meeting country's requirement for small/medium size crafts and fishing vessels. The ship-building industry is open to private sector irrespective of size of the ship except for construction of warships.

In order to enable the Indian Public Shipyard to have level playing field and to compete in the international market, in August 1997, Government had enunciated revised shipbuilding subsidy scheme which, *inter alia* envisages payment of 30 per cent shipbuilding subsidy in respect of ocean going vessels. This subsidy is available for domestic and export order as well. Besides shipping companies acquiring ships for Indian public sector shipyards can raise finance through ECB. This scheme would remain in force for a period of five years from 1997.

The report of an apex committee on shipbuilding to look into the problems of shipbuilding industry is under consideration of the Government. A study by the Bureau of Industrial Costs and Prices (BICP) (now known as Tariff Commission) on pricing of ships and problems of shipbuilding industry is being carried out in two phases. Phase-I is nearing completion.

A premier national institution namely National Ship Design and Research Centre (NSDRC), Visakhapatnam, an autonomous body under the administrative control of Ministry of Surface Transport has been set up with a view to provide service in ship design and research to assist Indian ship-building and shipping industries.

SHIP REPAIR

Of the 17 dry docks in the country, 13 are available for commercial ship repair activities. Dry docks at CSL and HSL can accommodate ships of maximum size of 1,25,000 DWT and 70,000 DWT respectively. In addition, ship repair facilities have been set up at Madras Port by a private entrepreneur with two floating dry docks of 14,000 tonnes lifting capacity (TLC) and 24,000 TLC respectively. In addition Western India Shipyard Limited has set up ship repair facilities at Mormugao on the West Coast. A floating dry dock of 20,000 TLC has been installed which caters to ships up to 60,000 DWT. In order to promote

private sector participation in ship repair industry, certain concessions have been given to the industry.

ANCILLARY DEVELOPMENT

The Ministry of Surface Transport provides grants-in-aid to the entrepreneurs who take up indigenous development of ancillaries for ship-building. The grant-in-aid available can be to the extent of 70 per cent of the total development cost. For availing grant-in-aid, the private entrepreneurs are required to apply to public sectors shipyard who, in turn, would forward the proposal for consideration of the Ship Ancillary Development Committee

R&D SCHEMES

The Ministry of Surface Transport has a scheme for providing grants-in-aid to research and educational institution for carrying out R&D schemes in ship-building. In the Ninth Plan four schemes have been completed, viz., development of manual for software on 3D, Finite Element Analyses of ships structure, Development of Computer Software for ship design and operation, Design of Sail and Standard Hull Design for mechanized countries craft. Six schemes are under implementation.

HINDUSTAN SHIPYARD LIMITED

The Hindustan Shipyard Limited, Visakhapatnam which was set up in 1941 in private sector, i.e., Scindia Steam Navigation Company Limited. At the behest of the owners, the Government took over the shipyard as a new company, viz., Hindustan Shipyard Limited in 1952. In 1962, the shipyard became a cent per cent Public Sector Enterprise. The yard has the following activities: (i) Shipbuilding : Shipbuilding capacity of the yard is of 3.5 pioneer type of vessels of 21,500 DWT (total capacity 75,250 DWT). It is capable of building ships up to 50,000 DWT. It has shipways, covered building dock, wet basin and outfit jetty, etc. HSL is the first ship-building yard in the country which is awarded ISO:9001 certification by Lloyds Register of Quality Assurance (LRQA), London for international standard of quality assurance; (ii) Ship repairs : Repair Dock does have facilities of modern dry dock, wet basin, repair shops, etc., so as to undertake repairs of submarine and tankers and ships up to 57,000-70,000 DWT; and (iii) Offshore platform yard : It has a capacity of constructing two platforms per annum. Infrastructure includes two crawlers, cranes and load out facilities. For want of fresh orders, there is no activity at present and manpower has since been transferred to shipbuilding and ship-repairs yard.

COCHIN SHIPYARD LIMITED

The Cochin Shipyard Limited (CSL) was incorporated on 29 March 1972 as a Company fully owned by the Government of India. The Yard is designed to construct Ships of sizes up to 1,00,000 DWT and repair ships up to 1,25,000 DWT. The Yard has constructed and supplied the eight largest ships (five bulk carriers and three crude oil tankers) in the country. In addition, the Yard has

also constructed 34 small vessels. During the last two years, CSI constructed and delivered one Double Hull Crude Oil Tanker (009) to Shipping Corporation of India, two pantoons for the Indian Navy and eight 35-Tonnes Bollard Pull Tugs for Chennai Port Trust. At present the Yard has orders for one 45-Tonnes Bollard Pull Tugs for Chennai Port Trust, one 35-Tonnes Bollard Pull Tugs for Kandla Port Trust and two 150 Passenger Vessels for Lakshadweep Administration. The yard has so far repaired more than 800 ships of all descriptions. There has been a steady growth and the ship-repair turn-over has increased from Rs 22 crore in 1990-91 to Rs 104.22 crore during 1999-2000. During 1999-2000, the company is expected to register a profit of Rs 44.30 crore.

HOOGHLY DOCK AND PORT ENGINEERS LIMITED

Hooghly Dock and Port Engineers Limited (HDPE), Calcutta came into existence on 30 June 1984, as a government public sector undertaking with a view to securing better utilization of available infrastructure thereof, to modernise and increase the capacity for ship-building and ship repairing so as to reduce the import of ships, vessels and crafts. The company has two working units in Howrah district of West Bengal, one at Salkia and another at Nazirgunj. The unit located at Salkia Works constructs various types of ships, passenger and other vessels crafts, dredgers, tugs, floating dry docks, fishing trawlers, off-shore platform, supply-cum-support vessels, multiple harbour vessels, lighthouse tender vessels, etc. This unit has an outfit at Kidderpore Dock Complex at Calcutta port for repair of various types of ocean going vessels and dredgers. The second unit at Nazirgunj Works is engaged in the construction of fishing trawlers, fire-floats, barges, morning launches, grab hopper dredgers, etc., and repair of different types of vessels besides general fabrication, machining and foundry jobs.

INLAND WATER TRANSPORT

India has got about 14,500 km of navigable waterways which comprises rivers, canals, backwaters, creeks, etc. At present, however, a length of 3,700 km of major rivers is navigable by mechanised crafts but the length actually utilised is only about 2,000 km. As regards canals, out of 4,300 km of navigation canals, only 900 km is suitable for navigation by mechanised crafts. About 18 million tonnes of cargo is being moved by Inland Water Transport (IWT), a fuel efficient and environment friendly mode. IWT is also known for higher employment generation potential. Its operations are currently restricted to a few stretches in the Ganga-Bhagirathi-Hooghly rivers, the Brahmaputra, the Barak river, the rivers in Goa, the backwaters in Kerala and in the deltaic regions of the Godavari-Krishna rivers. Besides the organised operations by mechanised vessels, country boats of various capacities also operate in various rivers and canals.

INLAND WATERWAYS AUTHORITY OF INDIA

The Inland Waterways Authority of India was set up on 27 October 1986 as a statutory body corporate under the Inland Waterways Authority of India Act, 1986. The authority is entrusted with the responsibility of development,

maintenance and regulation of national waterways and also to advise the Central and the State Governments on matters relating to development of IWT.

NATIONAL WATERWAYS

Considering the need to develop Inland Waterways and Inland Water Transport to play its rightful role in the transport network of the country, the Government had identified 10 important waterways for consideration to declare them as National Waterways. The Ganga between Allahabad and Haldia (1,620 km) on 27 October 1986, the Sadiya-Dhubri stretch of the river Brahmaputra (891 km) on 26 October 1988 and the Kollam-Kottappuram stretch of West Coast Canal (168 km) along with Champakara Canal (14 km) and Udyogmandal Canal (22 km) in Kerala with effect from 1 February 1993 have so far been declared as National Waterways and the same are being developed for navigation by Inland Waterways Authority of India. Techno-economic Studies on many other waterways such as Godavari, Krishna, Barak, Sunderbans, Buckingham Canal, Brahmani East Coast Canal, DVC Canal, etc., have been completed and found viable.

There is scope for private participation in Inland Water Transport (IWT) operation and creation of infrastructural facilities. In this regard various incentives to make this sector attractive are under consideration. The Inland Waterways Authority of India has formulated various schemes for creation of necessary IWT infrastructure and also for demonstration of the viability of IWT for creating awareness among the prospective private investors. Experimental cargo services are operated from Haldia Port to destinations in Bihar and Uttar Pradesh with this objective.

Considering the benefits of the IWT mode and the urgent need to create additional transport infrastructure, the IWT sector has been given a high priority during the Ninth Five Year Plan. While planning the infrastructure development in the IWT sector, the objective set for this plan is to achieve 20 billion tonnes which corresponds to two per cent of the total inland cargo.

CENTRAL INLAND WATER TRANSPORT CORPORATION

The Central Inland Water Transport Corporation (CIWTC) with its headquarters at Calcutta was set up as a public sector undertaking in May 1967. The CIWTC is mainly engaged in transportation of goods by Inland Waterways in the Ganga-Bhagirathi-Hooghly, Sunderbans and the Brahmaputra rivers. They are operating regular cargo services between Calcutta and Pandu (near Guwahati), between Calcutta and Karimganj (Assam), Calcutta-Bangladesh and between Haldia and Patna. The Corporation is also having a shipyard called Rajabagan Dockyard in Calcutta which is engaged in the construction and repair of inland vessels and harbour crafts. A deep-sea ship repair division at Calcutta is also functioning under CIWTC.

PROTOCOL ON INLAND WATER TRANSIT AND TRADE

The Indo-Bangladesh Protocol on Inland Water Transit and Trade which came

into operation in November 1972 has been renewed from time to time. This Protocol was last renewed on 28 October 1999 at Dhaka for a further period of two years with effect from 4 October 1999 to 3 October 2001.

PORTS

There are 12 major ports in the country apart from 139 minor working ports along the coastline of about 5,600 km.

MAJOR PORTS

Major ports are the direct responsibility of the Central Government. Kandla, Mumbai, Mormugao, New Mangalore, Cochin and Jawaharlal Nehru Port are the major ports of the west coast. The Jawaharlal Nehru Port is equipped with modern facilities having mechanised container berths for handling dry bulk cargo and service berth, etc. On the east coast, Tuticorin, Chennai, Visakhapatnam, Paradip and Calcutta-Haldia are the major ports. One more major port at Ennore near Chennai is being developed at a cost of Rs 953 crore. This port managed by Ennore Port Limited will be the first company managed major port in the country. All the major ports are administered in accordance with the provisions of the Major Port Trusts Act, 1963. Each major port has a board of trustees representing various interests connected with the port operations and the shipping industry. Among the major ports, Kandla Port Trust handled maximum traffic, with 40.6 MT during 1998-99, out of a total of 251 MT for all major ports. Mumbai handles a basic 12 per cent of the total traffic of the ports, bulk of which consists of petroleum products and dry cargo. A free trade zone set up here handles all types of traffic. Facilities for export of Kundremukh iron ore were specially developed at New Mangalore. Cochin is a natural harbour. Tuticorin Port handles mainly coal traffic.

Chennai is one of the oldest ports in the east coast. The traffic handled at this port consists mainly of crude oils and iron ore. Visakhapatnam is the 'deepest port' where an outer harbour has been developed for exporting iron ore and a berth has been constructed for crude oil and also petroleum products as well as a multi-purpose general cargo berth. Paradip handles iron ore and some quantities of coal and dry cargo. Calcutta is a riverine port handling diversified commodities. A new mechanised dock system at Haldia with provision for deep draft vessels supplements the facilities available at Calcutta. Haldia has fully equipped coal handling, oil and containerised berths. All the major ports generated operating surpluses and handled a total cargo traffic of 251 million tonnes during 1998-99.

MINOR AND INTERMEDIATE PORTS

The minor/intermediate ports are in the Concurrent List of the subjects in the Constitution of India. State Governments are responsible for the management and the development of these ports. Allocation for the development is provided in the respective state sector plans by the Planning Commission.

However, funds for the development of port facilities in the Andaman and Nicobar Islands, Lakshadweep, etc., are provided in the Central sector plan.

CIVIL AVIATION

ORGANISATION

The civil aviation sector has three main functional divisions—regulatory, infrastructural and operational. On the operational side, Indian Airlines, Alliance Air (Subsidiary of Indian Airlines), private scheduled airlines and air taxis provide domestic air services and Air India provides international air services. Pawan Hans renamed Pawan Hans Helicopters Limited provides helicopters services to ONGC in its shore operations and to inaccessible areas and difficult terrains. Indian Airlines operations also extend to the neighbouring countries, South East Asia and Middle East. India has been a member of International Civil Aviation Organisation (ICAO) and is also on the Council of ICAO since its inception.

The Government has ended the monopoly of Indian Airlines and Air India on the scheduled operations by repealing the Air Corporation Act, 1953. There are at present two private scheduled airlines operating on the domestic network rendering the passengers a wide choice of flights. Apart from this 47 Air Taxi Operators are providing non-scheduled air services. A new policy on domestic air transport service was approved in April 1997 according to which barriers to entry and exit from this sector have been removed; choice of aircraft type and size has been left to the operator; entry of serious entrepreneurs only has been ensured; and equity from foreign airlines, directly or indirectly, in this sector has been prohibited. The existing policy on air taxi services providing for a route dispersal plan to ensure operation of a minimum number of services in the North-Eastern Region, Andaman and Nicobar Islands, Lakshadweep and Jammu & Kashmir has been retained.

MINISTRY OF CIVIL AVIATION

The Ministry of Civil Aviation is responsible for the formulation of national policies and programmes for development and regulation of civil aviation and for devising and implementing schemes for orderly growth and expansion of civil air transport. Its functions also extend to overseeing the provision of airport facilities, air traffic services and carriage of passengers and goods by air. The Ministry is also administratively responsible for Commission of Railway Safety, a statutory body set up under the Railways Act.

CARGO

In order to help the Indian exporters and make their exports more competitive, the Government has introduced in April 1990 an 'open sky policy' for cargo. Under this policy any foreign airlines or association of exporters can bring freighters to the country for upliftment of cargo. The Government has also permitted market forces to determine cargo tariff, with IATA rates as the floor rates.

TOURIST CHARTER FLIGHTS

The charter flights bringing foreign tourists to the country are now allowed to operate to Goa, Agra, Varanasi, Jaipur and Bangalore airports in addition to the international airports. The minimum payment to the Indian tour operator by the foreign charter operators is 400 US dollars per person, effective from 1 April 1998. However, for tourists from SAARC countries and Myanmar, the amount to be paid is 50 per cent of the aforesaid amount. During 1999-2000, 493 flights were operated bringing in 1,01,889 foreign tourists up to December 1999.

IMPORT OF TRAINER AIRCRAFT

The power to permit import of flying training aircraft by recognised flying clubs/institutes has been delegated by the DGFT to the Ministry of Civil Aviation.

DIRECTORATE GENERAL OF CIVIL AVIATION

The Directorate General of Civil Aviation (DGCA) is the regulatory organisation for enforcing civil air regulations. It is responsible for : (i) Regulation of air transport services to/from and within India; (ii) registration of civil aircraft in India; (iii) formulation of standards of airworthiness for civil aircraft registered in India and grant of certificate of airworthiness to such aircraft; (iv) licensing of pilots, aircraft maintenance engineers and flight engineers; (v) licensing of aerodromes in India; (vi) investigation into air accidents and incidents; (vii) implementation of bilateral air services agreements with foreign countries; (viii) rendering advice on matters relating to air transport; (ix) processing of aviation legislation; (x) supervision of training activities of the flying/gliding clubs in India; (xi) development of light aircraft, gliders and winches and (xii) type certification of aircraft. DGCA also coordinates all regulatory functions with the International Civil Aviation Organisation (ICAO).

BUREAU OF CIVIL AVIATION SECURITY

The Bureau of Civil Aviation Security (BCAS) is the nodal body on all civil aviation security matters. It is responsible for laying down the standards of the pre-embarkation security and anti-sabotage measures in respect of civil flights in India, for monitoring their enforcement at the airports through periodical/surprise inspection and conduct of dummy checks. It also imparts training in aviation security on a regular basis. It has four regional offices at Mumbai, Delhi, Calcutta and Chennai, which have a bomb detection and disposal squads and controller of explosives. The Bureau has sniffer dog squads at Delhi, Mumbai, Calcutta, Chennai and Srinagar airports for detecting explosives and explosive materials. The Bureau deals with contingencies such as hijacking and bomb threats to the aircraft.

AIRPORTS AUTHORITY OF INDIA

The Airports Authority of India (AAI) was formed on 1 April 1995 by the

merger of the erstwhile International Airports Authority of India and the National Airports Authority. The new authority is responsible for providing safe, efficient air traffic services and aeronautical communication services for effective control of air traffic in the Indian air space. The Authority manages 95 civil airports including five international airports, 27 civil enclaves at defence airfields. It controls and manages the entire Indian space extending beyond the territorial limits of the country, as accepted by the International Civil Aviation Organisation (ICAO).

The main functions of the Authority consist of : (i) providing safe and efficient Air Traffic Services, Communication and Navigational Aids at all the airports; (ii) plan, develop, construct and maintain runway, taxi-ways, apron, terminal buildings, etc.; (iii) provide Air Safety Services and (iv) search and rescue facilities in coordination with other agencies and other functions as described in the AAI Act.

The Authority has a Civil Aviation Training College at Allahabad for imparting training on various operational areas like Air Traffic Control, Radars, Communication, etc. The Authority maintains the National Institute of Aviation Management and Research (NIAMAR) at Delhi for imparting various aviation management training programmes and refresher courses. In addition there is a Fire Service Training School at Narayanpur near Calcutta and the Fire Training Centre at New Delhi for imparting training and conducting refresher courses on fire fighting rescue services.

AIRPORT PRIVATISATION

It has been decided to restructure the airports of Airports Authority of India as and when found suitable through long term lease. This would improve the managerial efficiency, bring the standards of services/facilities at par with international standards and to attract investment from private sector. The existing airports at Delhi, Mumbai, Chennai and Calcutta are being taken up for this exercise. The Government has also approved the proposals for setting up new airports of international standards at Bangalore, Hyderabad and Goa with private sector participation. It has also been decided to declare existing domestic airports at Bangalore, Hyderabad, Ahmedabad, Goa, Amritsar, Guwahati and the new Cochin airport at Nedumbassery as international airports.

AIR SERVICES

India has bilateral air services agreements with 96 countries as on 31 May 2000. Air India owns a fleet of 26 aircraft consisting of six B747-400, two B747-300, seven B747-200, three A300-B4 and eight A 310 aircraft. With 26 aircraft and 18,658 employees, Air India operates 46 destinations.

Indian Airlines is the major domestic air carrier of the country. It operates to 63 domestic stations (including Alliance Air operations), and 16 international stations in 14 countries, viz., Pakistan, Maldives, Nepal, Sri Lanka, Malaysia, Bangladesh, Thailand, Singapore, UAE, Oman, Mynamar, Kuwait, Qatar and

Bahrain. Its operations, including Alliance Air cover 79 destinations, including 16 abroad. The Airlines owns a fleet of eleven A-300, thirty A-320, twelve B-737 and three Dornier-228 aircraft. All Boeing B-737 aircraft are being operated by its wholly owned subsidiary Alliance Air.

Pawan Hans Helicopters Limited operates and maintains 33 state-of-the-art helicopters. The Company has a mixed fleet of helicopters of various sizes and types catering to different customers requirements. These include the 3 seater R-44, 5-6 seater Bell 206 L4 and Bell 407, 11 seater Dauphin and 26 seater Mi-172 helicopters. The Company fleet has flown approximately 18,000 hours in 1999-2000 and 2,50,000 hours till July 2000.

INDIRA GANDHI RASHTRIYA URAN AKADEMI

Indira Gandhi Rashtriya Uran Akademi located at Fursatganj (UP) is an autonomous body under the Ministry. The Akademi was established to provide an opportunity to commercial pilots to achieve higher standards in flying and ground training. The Akademi is equipped with modern and sophisticated trainer aircraft, flight simulators, computer based training system (CBT), own ATC and runway airspace, audio-visual training aids and other facilities for imparting effective flying and ground training. Flying training is conducted on Trinidad TB-20 single engine and King Air C-90A twin-engine turbo prop aircraft, fitted with modern instruments and avionics. Commercial Pilots Licence course with multi-engine endorsement and Instrument Rating are conducted on a regular basis. The Akademi has trained 328 Fixed Wing pilots and 20 Rotary Wing pilots till now. Refresher training on Simulators has also been imparted to 146 individuals.

RESEARCH AND DEVELOPMENT

Research and Development Directorate of DGCA is responsible for: (i) type certification of civil aircraft, engines, propellers and equipment; (ii) approval of modification and repair schemes of civil aircraft; (iii) development testing of indigenous aircraft materials, parts and equipment; (iv) scientific laboratory investigation on failed aircraft/power plan, structural parts and components; (v) design and development of gliders, light trainer aircraft, glider launching winches; (vi) quality control monitoring and testing of fuel samples, etc., and (vii) economics of aircraft operation and performance evaluation.

TOURISM

Tourism has emerged as an instrument for employment generation, poverty alleviation and sustainable human development. During 1998-99, direct employment in the tourism sector was estimated to be 14.8 million and total employment due to tourism was estimated to be 34.9 million. It also promotes national integration and international understanding and gives support to local handicrafts and cultural activities.

Tourism in India has grown substantially over the last three decades. Foreign tourist arrivals during 1999 were 24,81,928. Foreign exchange earnings

from tourism during 1999 were estimated at Rs 13,042 crore. Tourism has thus become the second largest net foreign exchange earner of the country.

Domestic tourism plays a vital role in achieving the national objectives of promoting social and cultural cohesion and national integration. Its contribution to generation of employment is very high. With the increase in income levels and emergence of a powerful middle class, the potential for domestic tourism has grown substantially during the last few years. During 1999 about 175 million domestic tourists made visits outside their places of residence.

In order to further accelerate the development of tourism in the country, the thrust during the Ninth Five Year Plan are: (a) development of infrastructure; (b) product development and diversification; (c) development of adventure sports and wildlife tourism; (d) exploring new source markets; (e) environmental protection and cultural preservation of national heritage; (f) launching of national image building and marketing plans in key markets; (g) providing inexpensive accommodation in different tourist centres; (h) streamlining of facilitation procedures at airports; (i) human resource development; (j) creating awareness and public participation; and (k) facilitating private sector participation in development of infrastructure, etc.

ORGANISATIONS

The organisations involved in the development of tourism at the Centre are the Ministry of Tourism, Indian Institute of Tourism and Travel Management, National Council for Hotel Management and Catering Technology, India Tourism Development Corporation Limited, Indian Institute of Skiing and Mountaineering and National Institute of Water Sports.

The Ministry of Tourism is responsible for formulation and implementation of policies and programmes for the development of tourism within the country and for attracting foreign tourists to India by way of developing tourism infrastructure, publicity and promotion, dissemination of information, co-ordination and supervision of activities of various segments of industry such as hotels, travel agencies, tour operators, etc. There are 21 field offices of Ministry of Tourism in India and 18 in other countries to undertake both developmental and promotional activities. While the overseas offices are in constant contact with tourists, travel intermediaries and media to promote tourism in India, the field offices in India provide facilitation services to tourists and co-ordinate with the State Governments on tourism infrastructural development. The overseas tourist offices are the outposts of the Ministry in the traffic generating markets of the world and their prime function is to develop strategies for market development and implement them to increase the tourist flow to India. Tourist offices abroad also handle tourist enquiries, disseminate tourist information, undertake tourist promotion by means of advertisement and publicity and maintaining liaison with trade and press.

The India Tourism Development Corporation (ITDC), a public sector

undertaking, was established in October 1966. The activities of the corporation include : (a) construction, management and marketing of hotels, restaurants, travellers lodges for tourists at various places in the country; (b) provision of tourist transport facilities; (c) production, distribution and sale of tourist publicity materials; (d) provision of entertainment facilities such as light and sound shows, music concerts, etc.; (e) provision of shopping facilities including duty free shops; and (f) provision of consultancy-cum-managerial services in India and abroad.

The Indian Institute of Tourism and Travel Management is an autonomous body set up to provide education in tourism and travel management and to meet the demands of professionally trained personnel in the tourism industry. During 1999-2000 it has produced 1,155 trained personnel in different fields of travel and tourism. The Institute also organises executive development programmes, seminars and workshops relating to tourism and travel management. The Institute has also assisted several universities for running courses at the post-graduate level.

The Ministry of Tourism has accorded high priority to the development of man-power to meet the growing needs of hotels, restaurants and other hospitality based industries. For this purpose, 21 institutes of hotel management and catering technology and 15 food crafts institutes have been set up in the country. These institutes conduct diploma courses in the fields of Hotel Management and Catering Technology and Applied Nutrition and Craft courses in food and beverage services. Food craft institutes conduct craft courses for a duration ranging from six months to one year for operational staff.

In order to encourage adventure tourism, the Ministry of Tourism has set up a National Institute of Water Sports at Goa and the Indian Institute of Skiing and Mountaineering (IIS&M) at Gulmarg. The IIS&M conducts courses at Auli, Patnitop, Gulmarg and Kulu. The National Institute of Water Sports conducts and facilitates courses in various activities, like sailing, scuba diving, water skiing, etc. The Institutes act as the nodal centres for adventure and sports oriented tourism activities in the country.

HOTEL ACCOMMODATION

The hotel sector forms one of the most important segments of the tourism industry with high potential for employment generation and foreign exchange earnings. To give impetus to this sector, the government provides tax benefits and other incentives. The industrial policy has now placed hotels and tourism related activities as a priority industry. Foreign investment and collaborations are now facilitated under the new economic policy. Up to 51 per cent foreign equity is granted automatically. Higher foreign equity is allowed with the approval of Foreign Investment Promotion Board. Non-resident Indians are allowed cent percent investment.

CLASSIFICATION OF HOTELS UNDER THE STAR SYSTEM

The Ministry of Tourism classifies functioning hotels under the star system into various categories from one to five-star deluxe and a newly introduced category of heritage hotels. The Ministry also reclassifies these hotels after every three years to ensure that the requisite standards are maintained by them. The Hotels and Restaurants Approval and Classification Committee (HRACC) set up for the purpose has representatives from the Central Government, State Governments and hotel and travel industry associations.

By the end of January 2000, there were 68,032 rooms in the approved list of hotels. The classified hotels included 146 in one-star, 324 in two-star, 316 in three-star, 79 in four-star, 50 in five-star, 55 in five-star deluxe, 62 in heritage and 197 in yet to be classified hotel category.

HERITAGE HOTELS

A new classification of heritage hotels has been introduced to cover functioning hotels in palaces, *havelies*, castles, forts and residencies built prior to 1950. As the traditional structure reflects the ambience and lifestyle of the bygone era and are immensely popular with the tourists, the scheme is aimed to bring such properties into the approved sector and to ensure that such properties, landmarks of our heritage are not lost due to decay and unuse. Sixty-two properties have been classified in the heritage hotel category providing a capacity of 1,916 rooms for tourists. Guidelines have also been formulated for the conversion of heritage properties into heritage hotels.

PAYING GUEST ACCOMMODATION

In order to augment the accommodation facilities at the major tourist centres, paying guest accommodation scheme has been introduced. So far, 1,472 units have been registered. This scheme is open to the house owners having lettable rooms of the requisite standard. Paying guest accommodation committees have been constituted in different regions. A directory of paying guest accommodation units has also been published by the Ministry.

TRAVEL TRADE

Travel Trade Division of the Ministry of Tourism extends support to the travel trade both national and international and coordinates with various Central Departments and State Governments. It also interacts with travel trade associations like Travel Agents Association of India (TAAI), Indian Association of Tour Operators (IATO), Tourist Transport Operators Association, and other agencies like India Convention Promotion Bureau, Pacific Asia Travel Association (PATA), etc.

The Ministry of Tourism has streamlined and simplified the rules regarding the grant of approval to travel agents, tour operators and tourist transport operators. The Ministry has so far approved 389 tour operators, 298 travel agents, 240 transport operators and two adventure tour operators. With

a view to attract more tourist charter flights to India, the system of granting clearances has been liberalised. A new air-conditioned rake of *Palace on Wheels* train has been fabricated and has become operational in Rajasthan. Another special tourist train *Orient Express* has been introduced in Gujarat sector and a few more in the private sector are likely to be introduced. The year 1999 was celebrated as Explore India in the Millennium Year by presenting a spectacular tableau on Cultural Heritage of India at the Republic Day Parade. Several programmes were planned including India Tourism Expo at Pragati Maidan, New Delhi from 22-24 January 1999 and Khajuraho Millennium from April 1999 to March 2000.

23 Communications

THE early postal system of India was solely used for official purposes and it was not until 1837 that the postal services were opened to the public. The first postage stamp was issued in Karachi in 1852, valid only in Sind province. In 1854, the Indian Post Office was reorganised as an institution, with a Director General-in-charge. 700 post offices were then already in existence. Since then, postal services have grown both in terms of the extent of the postal network and its scope and the variety of the services it offers. The statute governing the postal services in the country is the Indian Post Office Act, 1898. It vests the Government with the exclusive privilege of collecting, carrying and delivering letters within the country.

POSTAL NETWORK

The Indian Postal network is the largest postal network in the world. The country has 1,54,149 post offices, out of which 1,37,847 are in the rural areas and 16,302 in the urban areas. At the time of Independence there were 23,344 post offices. Of these 19,184 post offices were in the rural areas and 4,160 post offices in the urban areas. The postal network has grown almost seven times since then.

Expansion of postal network especially in the rural areas has been brought about by the system of extra departmental post offices. On an average, a post office serves an area of 21.32 sq km and a population of 5,477. Post offices in rural areas are opened subject to satisfaction of norms regarding population, income and distance laid down by the Department for the purpose. The element of subsidy involved in opening of post offices in hilly, desert and inaccessible areas is to the extent of 85 per cent of the cost, whereas the subsidy in opening a post office in normal rural areas, is to the extent of 66 $\frac{1}{3}$ per cent of the cost.

The postal network consists of four categories of post offices, viz., head post offices, sub-post offices, extra-departmental sub-post offices and extra-departmental branch post offices. All categories of post offices offer similar postal services, delivery function being restricted to only earmarked offices. In terms of management control, accounts are consolidated progressively from branch post office to sub-post office and finally in head post office.

MAIL SYSTEM

First-class mail, viz., post cards, inland letter cards and envelopes, are given air lift, without any surcharge, between stations connected by air. Second-class

mail, viz., book packets, registered newspapers and periodicals are carried by surface transport, i.e., trains, buses and other means.

The Department handled about 1,576.7 crore pieces of mail during 1998-99. Out of this, 1,357.59 crore constituted first-class mail which comprised house-hold mail and official and business correspondence. Second-class mail was 219.06 crore. The volume of unregistered mails handled during 1998-99 was 1,549.83 crore, out of which, rural mail constituted 599.52 crore and urban mail 950.31 crore. The registered mail handled during 1998-99 was 26.82 crore. Besides, the Department handled 10.91 crore of money orders of total value of Rs 4,829.86 crore during 1998-99.

IMPROVISING MAIL TRANSMISSION

Local mail is segmented from non-local mail in order to ensure a dedicated mail transmission system catering to the special customer needs. For prioritization in transmission non-local mail is further segmented as : household mail, official mail, corporate mail, *patrika* and periodical mail, packets and parcel. First-class household and official mail have been identified as priority mail.

The following mail channels have been introduced in cities and larger towns.

(a) **Rajdhani Channel**—This channel was introduced for transmissioin of mail from Delhi to six state capitals with effect from 16 May 1994. The remaining state capitals were covered by August 1995. The Rajdhani Channel aims at catering to such mails emanating from Delhi and meant for the state capitals and *vice versa*. Yellow-coloured letter boxes have been installed for such letters.

(b) **Metro Channel**—This channel was introduced on 2 April 1994 to handle inter-metro first-class mail between Banglore, Calcutta, Chennai, Delhi, Hyderabad and Mumbai. In these cities lightt blue-coloured letter boxes have been installed especially for such letters.

(c) **Green Channel**—Special arrangements exist in all major cities for expeditious delivery of local mail through this system. Unregistered first-class mail emanating from a town and meant for delivery within that town are delivered the next day of posting. Green letter boxes are installed at selected Post Offices and at other public places for posting of local mail. The main objective of this channel is to segregate the local mail for its speedy processing and expeditious delivery.

(d) **Business Channel**—Business Channel comprises first-class unregistered letter mail posted by corporate bodies including Government and semi-government institutions at the counter of a designated post office or a mail office. If the quantum to be mailed at a time exceeds 2,000, it is required to be pre-sorted by the customer based on the local parameters of the place of posting. This channel was introduced with effect from 1 July 1994 as a measure

to de-congest the network and avoid delay to household mail.

(e) Bulk Mail Channel - Postings exceeding 250 articles in case of registered mail or 2,000 pieces of unregistered mail are called bulk mail postings. Bulk mail has to be necessarily pre-sorted in registered bundles (for registered mail) and labeled bundles (for unregistered mail) as per the specified sorting pattern. There are designated post-offices called Corporate Post Offices which are authorised to accept bulk mail.

(f) Periodical Channel—This is a separate channel to ensure speedy transmission of newspapers and periodicals which are time-sensitive and are posted in bulk. This channel is operated in metro cities and major towns where heavy volume of such mail is received.

MODERNISATION OF MAIL TRANSMISSION AND PROCESSING

AUTOMATIC SORTING MACHINES

For efficient and speedy handling of mail in metropolitan towns, automatic sorting machines are being set up. Automatic Mail Processing Systems have already been set up at Mumbai and Chennai. Each of these machines process more than five lakh pieces of mail per day. One such system is proposed to be set up in Calcutta during 2000-2001.

MONEY ORDER

The money-order service was introduced in 1880. Under the ordinary money-order scheme, remittance of an amount up to Rs 5,000 can be made through each money order. In 1998-99, 10.91 crore Money Orders were booked for Rs 4,829.86 crore.

SATELLITE MONEY ORDER

For speedier transmission of money orders in the country, 77 satellite based Very Small Aperture Terminals (VSATs) have been installed at various locations which are in turn connected to 610 Extended Satellite Money Order Stations (ESMOS) through modems, telephones and personal computers. More than 105 lakh money orders are transmitted through this network every month. The existing network being extended to 62 more locations is likely to be completed by October 2000. This would help transmit almost the entire money order traffic through the VSAT network. Another 266 extended satellite money order stations are also being set up.

MODERNISATION AND MECHANISATION

As on 31 March 2000, 1,406 important post offices all over the country stood modernised. A total of 6,257 computer-based machines have been installed in more than 1,300 post offices in the country aimed at providing an efficient service through a single window. Parliament Street Head Post Office and Lodhi Road Head Post Office in the National Capital has been fully computerised covering all operations on an integrated system for providing an efficient, modern and responsive customer service.

PREMIUM PRODUCTS

A Business Development Directorate was set up on 1 February 1996 with the objective of marketing and promoting premium services for meeting the needs of specific customer segments. These are : (i) Speed Post : The Speed Post Service was introduced on 1 August 1986. Under this service, letters, documents and parcels are delivered fast within a given time-frame, failing which full refund of postage is made. The Speed Post network connects 100 national, 494 State Speed-Post centres and 97 foreign countries. A contractual speed-post service, free pick-up service, book-now-pay-later schemes, insurance service and other value-added services are also available under the Speed-Post Service for regular and corporate customers. During 1999-2000, Speed Post carried 3.13 crore articles, recording a growth of 38 per cent in revenue over the previous year; (ii) Express Post: The Express Post was relaunched with improved features on 1 March 1999 to provide a reliable and time-bound parcel service through surface transport. It provides door-to-door service, distance-based tariff, weight limit up to 35 kg, assured delivery and VPP service up to Rs 50,000. The Express Parcel Post caters to corporate users and business establishments. Express Parcel can be booked in 100 cities of the country where National Speed Post Centres are available; (iii) Business Post: The Department launched Business Post with effect from 1 January 1997 to meet the specific needs of big mailers. It provides mailing solutions for customers by offering pre-mailing services including collection, insertion, sealing and franking, etc. This service is available at 42 cities across the country at offices called 'Business Post Centres'. This service earned a revenue of Rs 84.92 crore during 1999-2000 by handling traffic of 21.67 crore. Desktop inserting systems have been installed at Business Post Centres in Chennai, Delhi, Mumbai and Pune; (iv) Media Post: The Department offers a unique media concept to help the Corporates and the Government organisations reach potential customers through Media Post. Customers can use the following for their branding exercise: (a) Advertisement on postcards, inland letters, aerogrammes and other postal stationery; and (b) Space sponsorship options on letter boxes. The Department earned a revenue of Rs 5.78 crore in 1999-2000 from Media Post; (v) Satellite Post: Satellite Post provides electronic mail service to the customers by linking e-mail with the postal delivery. While the message is transmitted through VSATs by using computer network, the hard copy is delivered to the customers through Speed Post. Seventy five major towns in India are linked through Satellite Post network, and (vi) Retail Post: With a vast network of post offices, India Post offers Retail Post for collection of electricity bills, telephone bills, water bills, examination fees and other services on commission basis.

POST SHOPPES

In 1994-95 a scheme of opening of Post Shoppes within the premises of certain important post offices functioning in departmental buildings was introduced. The Post Shoppes sell items of stationery, greeting cards and small gift items. There are 26 such post shoppes in various post offices across the country.

PHILATELY

Special and commemorative postage stamps issued by the Department cover a wide range of themes reflecting the rich natural and cultural heritage of the country. Important national/international events, famous personalities and institutions are honoured through the medium of commemorative postage stamps. These stamps enjoy wide popularity in the world of philately. The Department also provides items of stationery like inland letter cards, post-cards, competition post-cards, envelopes, aerogrammes and registration envelopes printed by India Security Press, Nashik and the Security Printing Press, Hyderabad. The services of printers in the private sector having the requisite capacity, competence and a state-of-the-art technology have been utilised for production of stamps and stationery. During 1999, the Department issued 62 commemorative/special postage stamps, earning a revenue of more than Rs 20.6 crore. These stamps are marketed through 54 philatelic bureaux and 205 philatelic counters, spread all over the country.

INTERNATIONAL MAILS

India has been a member of the Universal Postal Union (UPU) since 1876 and of the Asian Pacific Postal Union (APPU) since 1964. These organisations aim at extending, facilitating and improving postal relations among member countries. India exchanges mail with more than two hundred countries by air and surface. With a view to improve the quality of surface mails, India initially introduced the Surface Air Lifted (SAL) Mail Service in respect of letters and parcels to four destinations, namely Germany, Great Britain, Singapore and the United States of America. In respect of parcels, this service has now been extended to nineteen more countries. This service involves dispatch of surface mail by air with reduced priority and postage in order to improve the quality of service.

Money can be remitted from selected foreign countries to India by way of Money Orders and Postal Orders. India has Money Order Service with twenty nine countries. India has a two-way Money Order Service with Bhutan and Nepal wherein Money Orders can be sent to and received from these countries. With the remaining twenty-seven countries, inward service only is available where Money Orders booked in these countries can be paid in India. The British Postal Orders and Irish Postal Orders are encashable at selected Post Offices. International EMS started in 1986 with five countries has now been extended in 97 countries.

In order to facilitate export and import to and from foreign destinations, principal foreign offices of exchange have been set up at Mumbai, Calcutta, Chennai and New Delhi. In addition, five sub-foreign Post Offices have been established at Ahmedabad, Bangalore, Jaipur, Cochin and Srinagar for both import and export. Export Extension Windows have also been made operative at Varanasi, Kanpur, Surat, Noida, Agra and Ludhiana to cater to the needs of the exporters/tourists of these areas.

AGENCY FUNCTIONS

POST OFFICE SAVINGS BANK

Post Office Savings Bank is the largest savings bank in the country with 1,50,389 post offices performing savings bank operations. The outstanding balance under all national savings schemes except Public Provident Fund (PPF) in post offices stood at Rs 1,82,205 crore by March 2000. The outstanding balance in PPF as on 31 March 2000 was Rs 4,454 crore. A total of Rs 30,247 crore was deposited in the post office savings bank during 1999-2000.

POSTAL LIFE INSURANCE

Postal Life Insurance (PLI), was introduced in 1884 for postal employees. Over the years it has been extended to the employees of Central, State governments, public sector undertakings, universities, Government-aided institutes, nationalised banks, financial institutions and extra departmental agents of the Postal Department. PLI offers five Insurance Plans, namely, *Suraksha*, *Suvidha*, *Santosh*, *Samangal* and *Yugal Suraksha*. *Yugal Suraksha*, a Joint Life Endowment Assurance Scheme for married couples was introduced on 1 August 1997. The scheme provides insurance cover to the lives of both spouses with a single premium. In the event of death of one, the assured amount is paid to the other.

Rural Postal Life Insurance (RPLI) was introduced with effect from 24 March 1995 to provide insurance cover at a low premium to the rural masses and to the weaker sections of the society. A '10-year Rural PLI' scheme was also introduced under which survival benefits are paid periodically, but in the event of the death of the insurant during currency of the policy, the full sum for which the deceased was insured is paid notwithstanding the survival benefits already paid. This Plan, has the added benefit that where the insurant is unable to pay premium due to natural calamities, no interest is charged in arrears premium up to 12 months. During 1999-2000, the business of Rs 1,338.97 crore in respect of 1,58,708 PLI policies and Rs 400.70 crore in respect of 1,51,250 RPLI policies was secured.

HUMAN RESOURCE DEVELOPMENT

The Department with about 2.92 lakh departmental employees and about 3.09 lakh extra-departmental agents has a well-developed training infrastructure. At the apex is the Postal Staff College, Ghaziabad to meet the training and developmental needs of the postal executive cadres and also organises workshops on different aspects of the Post. The Postal Training Centres at Darbhanga, Madurai, Mysore, Saharanpur and Vadodara impart induction and in-service training to the postal operative and supervisory cadres. They also impart training in computer applications.

TELECOMMUNICATIONS

Telecommunication services were introduced in India soon after invention of

telegraphy and telephone. First telegraph line between Calcutta and Diamond Harbour was opened for traffic in 1851. By March 1884, telegraph messages could be sent from Agra to Calcutta. By 1900, telegraph and telephone had started serving Indian Railways. As in case of telegraph, telephone service was also introduced in Calcutta in 1881-82, barely six years after invention of telephone. First automatic exchange was commissioned at Shimla at 1913-14 with a capacity of 700 lines.

The Department of Telecommunications (DoT) has improved significantly since independence both in quality and quantity. The number of exchanges which was around 300 has gone to 27,909 by March 2000. Initially, most of the exchanges were either Magneto type or manual type, which subsequently were upgraded into automatic electro-mechanical type. In the last one and a half decades, a significant qualitative improvement has been brought about by inducting Digital Electronic Exchanges in the network on a large scale. Today 100 per cent telephone exchanges in the country are of electronic type.

As on 31 March 2000, India has one of the largest telecom networks in Asia comprising 27,909 telephone exchanges, with a total equipped capacity of 32.77 million lines and 26.51 million working telephones. The long-distance transmission network has about 1,69,000 route km of radio systems, and about 1,71,300 route km of optical fibre systems. Fully automatic International Subscriber Dialling (ISD) service is available to almost all the countries. The total number of stations connected to National Subscriber Dialling (NSD) is 21,570. In the field of international communications, tremendous progress was made by the use of Satellite Communication and Submarine links. The voice and non-voice telecom services, which include data transmission, facsimile, mobile radio, radio paging and leased line services, cater to a variety of needs of both residential and business customers. ISDN facility is available in a number of cities. A dedicated Packed Switched Public Data Network with international access for computer communication services is also made available. More than 3.74 lakh of the total six lakh villages in the country have been covered with telephone facility.

BASIC SERVICE

The Government has announced New Telecom Policy - NTP, 1999. The New Telecom Policy provides: (i) The number of players and their mode of selection is to be decided on the basis of recommendations from the TRAI in a time-bound manner, (ii) the fixed Service Providers would be required to pay one-time entry fee and licence fee in the form of revenue share, and (iii) the level of entry fee, the percentage of revenue share and basis of selection of new operators are to be decided on the recommendations of TRAI in a time-bound manner. According to this Policy the market forces will ultimately determine the number of fixed Service Providers. However, for a period of five years, the policy provides for multiple operators in those service areas where no licences have been issued. Earlier, as per the National Telecom Policy 1994, licences were issued to six companies for six telecom circles for providing

Basic Telephone Services. These circles are Andhra Pradesh, Gujarat, Maharashtra, Madhya Pradesh, Jharkhand and Rajasthan. The first long distance service by the private operators has been started in Madhya Pradesh, Andhra Pradesh, Maharashtra, Gujarat and Rajasthan, while in Jharkhand, it is expected to start shortly.

VALUE ADDED SERVICES

The New Telecom Policy 1999 (NTP-99) framework took into the account the following: Cellular Mobile Service Providers, Fixed Service Providers and Cable Service providers, collectively referred to as Access Providers, Value-Adding Service Providers, Public Mobile Radio Trunking Service Providers, National Long Distance Operators, International Long Distance Operators, Other Service Providers, Global Mobile Personal Communication by Satellite (GMPCS) Service Providers, and VSAT based Service Providers. Further, Licenses for Value Added Services will be issued in terms of NTP-99.

Cellular Mobile Telephone Service. Eight licenses for Cellular Mobile Telephone Service in the four metro cities of Calcutta, Chennai, Mumbai, and Delhi were issued in November 1994. 34 licenses for 18 International Telecom Circles were issued to 14 companies since December 1997. Service has been started in all the metro cities and select cities in 18 Circles. There are now at 200 lakh cellular customers in the country. The existing licenses of Cellular Services were permitted migration to NTP-99 regime of licensing with effect from 1 August 1999. Pending final decision of ITA on revision of rates, Government has provisionally fixed 15 per cent of gross revenue of a licensee to be paid as licence fee. MTNL and DDO have been given licence for operation of technology neutral Cellular Mobile Telephone Service in several parts of the country. In terms of the New Policy, the licensee operator is required to provide, in its area of operation all types of mobile services including voice and non-voice messages, data services, and IS-Os, carrying any type of electronic equipment, including circuit and/or package switches that meet the relevant International Telecom Union (ITU) Telecom Engineering Committee (TEC) standards. The vacant slots for cellular services in 16th Circle (Pondicherry), Andaman & Nicobar Circle (2 slots), West Bengal Circle (1 slot) and Kerala (1 slot) shall be filled up and licence for mobile operation in several parts of the country shall be issued subsequent to recommendations of ITA in this regard.

Public Mobile Radio Trunked Service (PMRTS). 87 access agreements signed with 21 companies for operation of PMRTS in 10 states and union territories. The service has already commenced in 10 states by 20 companies.

Value-Added Audio Text Service. Four access agreements with three companies for four cities are current. The service is becoming in four cities by three companies.

Global Mobile Personal Communication by Satellite Service. The Government of India took a policy decision on 29 August 1998 on the subject of

of the Global Mobile Personal Communication by Satellite Services (GMPCS) in the country. As per this decision, Indian companies with up to 49 per cent foreign equity will be issued licences on non-exclusive basis subject to clearance of individual proposals from security angle. A provisional licence agreement was issued on 28 October 1998 to M/s Iridium India Telecom Limited. However, the service ceased to operate with effect from 18 March 2000 due to non-availability of satellite infrastructure from M/s Iridium LLC, USA. LOI for the service has been issued to M/s ASC Enterprises Limited; the applications for grant of licence to Shyam ACeS India Private Limited and to M/s VSNL for ICO-GMPCS Service are under processing.

TRAINING INFRASTRUCTURE

The Indian Telecom Administration employs about 4,24,000 personnel which includes staff in MTNL and industrial workers in the Telecommunication factories also. Telecom personnel are regularly enlisted in training programmes to upgrade their skills, knowledge and managerial effectiveness. India has set up a vast network of 44 Telecommunication Training Centres. Starting at the apex are the Advanced Level Telecom Training Centre (ALTTC) at Ghaziabad and Bharat Ratna Bhim Rao Ambedkar Institute of Telecom Training at Jabalpur followed by 42 Telecom Training Centres at regional, state and district levels for imparting training to the personnel in technical, managerial, traffic, building science and finance branches of Telecom Services. Trainees from foreign telecom administrations and entities are also admitted to these Centres.

Advanced Level Telecom Training Centre, Ghaziabad, an apex level training institution, was established by the Government of India in 1975 with the assistance of UNDP and ITU. The Centre develops and imparts training in high-tech telecommunications and modern management practices for the base, middle and top-level engineers and managers of the Government of India and countries of South East Asia and ESCAP region, including English-speaking countries of Far East, middle East and Africa. It functions as a resource centre in providing developed course materials, audio-visual instructional aids, computer-based training, software support and training of trainers. Over 3,500 officers are trained annually in the Centre including trainees from foreign countries.

TELECOMMUNICATIONS ENGINEERING CENTRE

Telecommunications Engineering Centre (TEC) is a part of Telecom Commission, Government of India with its headquarters at New Delhi. Its role and objectives include standardisation and development of generic requirements, interface requirements for telecom equipment, services and products; evaluation and approval of equipment, services and products including approval of DoT for R&D institutions; new technology study, trial, evaluation and induction; technical and advisory support on planning aspects. TEC evolves generic, interface, service requirements and specifications for various telecom products, equipments and services. This activity is carried out by a specialized group

of TEC. Approvals are being accorded by TEC after the evaluation of products. In addition, licensed private network and point of interconnect are being tested and certified by TEC.

The Telecommunications Engineering Centre provides on various technical issues, support and advice to Telecom Commission for formulating fundamental plans, technology plans, technology trails, tender evaluation, major network issues, software support as well as testing of application software. Regarding Information Technology full technical inputs are provided by TEC. The Telecommunications Engineering Centre has specialised divisions to cover the various areas of telecommunications at its headquarter. The Regional Telecommunication Engineering Centres (RTECs) set up at Bangalore, Calcutta, Delhi, Hyderabad and Mumbai, facilitate according of approvals and testing of licensed service networks. These centres carry out interaction with industry for development of telecom products.

TELECOM QUALITY ASSURANCE WING

The Telecom Quality Assurance Circle was established in 1979, initially as a part of T&D Circle and subsequently in 1986, as an independent organisation with the objective of defining Quality Parameters, laying down Quality Assurance procedures and resolving quality-related problems in the course of factory QA testing of Telecom equipments and network products and those reported from field units.

CENTRE FOR DEVELOPMENT OF TELEMATICS

The Centre for Development of Telematics (C-DOT), an autonomous registered society was set up in 1984 with the objective of developing a new generation of switching systems relevant to the Indian environment. Its sphere of operations was widened in 1989 when it was entrusted with the development of transmission systems. C-DOT has developed a range of cost-effective products with the built-in qualities of upgradability and ruggedness to withstand extreme environmental conditions relevant to the Indian Network. C-DOT is today recognised as a pioneer in the field of rural telecommunications. Currently, there are 27,000 exchanges operational in the rural telecommunications.

For urban and semi-urban applications, a family of Digital Switching Systems (DSS) from 1,500 lines to 40,000 lines has been developed named as C-DOT DSS MAX (Main Automatic Exchange). The C-DOT DSS MAX products have the proven ability to serve as local, toll, transit and Integrated Local-cum-Transit (ILT) switches. These exchanges can currently handle 8,00,000 calls in one hour.

New features and services are continuously added to increase the utility and relevance of these systems. In the area of transmission, C-DOT has developed low capacity digital radio technologies for inter-connecting rural and urban exchanges, satellite systems for integrated voice and data communications, digital multiplexes and optical communication systems.

operational efficiency. A variety of phone-plus services have been made available to customers connected to electronic exchanges. Computerised morning alarm, voicemail, radio paging, automatic changed number announcement, etc., have been implemented. Sustained efforts have been made to maintain the various operational parameters such as STD and call completion rate and manual trunk efficiency. MTNL has taken several steps to improve its interface with the customers. Telephone *Adalats*, Open House Sessions are being held to have effective both-way communications, with the customers. Quick Customers Service Centres have been opened at all divisional offices for catering to day-to-day customers requirements for accessories, phone-plus services, STD barring/restoration and local shift telephone.

The authorised equity share capital of the company is Rs 800 crore. The paid-up capital is Rs 630 crore which includes Rs 30 crore by way of GDR issue. The Government of India now owns approx. 56.75 per cent of the MTNL paid-up capital.

VIDESH SANCHAR NIGAM LIMITED

Videsh Sanchar Nigam Limited (VSNL) is India's exclusive provider of international tele-communications services and enjoys monopoly in international telecommunications services till 2004. Presently, Government shareholding in VSNL is 52.97 per cent. VSNL provides both basic and value-added services such as television transmission/reception, high-speed digital leased lines, global mobile personal communications by Satellite, Internet Access, ISDN, Gateway Packet Switching, E-mail, Electronic Data Interchange, Frame Relay Services and Video-conferencing, etc. VSNL's international connectivity is achieved through its seven gateways located at Mumbai, New Delhi, Calcutta, Chennai, Jalandhar, Gandhinagar and Ernakulam. VSNL operates 19 satellite earth stations, analog cable systems ICOM and gulf cables, three Optical Fibre sub-oceanic cable systems: the SEA-ME-WE-2, FLG and SEA-ME-WE-3.

The latest addition in the services portfolio provided by VSNL is the Internet. VSNL operates six Internet nodes on its own and offers support to over 40 other nodes in the country operated by DOT and MTNL. VSNL has been India's largest Internet Service Provider (ISP), for the last four years, with over 3.5 lakh customer base now. VSNL also provides required connectivity to other ISPs.

VSNL is India's signatory in international fora like INMARSAT, INTELSAT, their restructured companies, viz., Inmarsat Holding Limited and New Skies Satellites, etc. Other major projects of VSNL now on anvil include Standard 'F3' earth station at Calcutta, Standard 'B' earth station at Hyderabad, DCME implementation, Video uplinking facility, High capacity Internet Exchange and Digital TV Uplink system at Standard 'A' Earth Stations. This provides VSNL with the opportunity to play a pivotal role in the future of international telecommunications and India's business integration with the

rest of the world. VSNL had successfully raised funds from the international market from its two GDR issues, the first one for US \$ 527 million in 1997 and the second for US \$ 185 million in 1999. The second issue was a disinvestment by the Government of India. At present, 52.97 per cent of VSNL is owned by the Government of India. In the five years (1996-2000), the revenues and net profit have grown at CAGR of 12.67 per cent and 33.84 per cent respectively and company's market capitalisation stands at Rs 17,936 crore. To ensure future growth, VSNL has a five year programme of investment of over Rs 7,300 crore in further infrastructure, platforms of the future and other strategic initiatives.

Consequent to the liberalisation of Broadcasting policy by the Government, VSNI has provided satellite uplinking facility to a number of private operators which include Sun TV, Surya TV, Eenadu, Asianet, Gemini TV, Vijay TV, etc. VSNI also provides point-to-point transmission facilities to Star TV and Zee TV. VSNL's major initiatives include more gateways at international traffic-generating centres and greater facilities to provide information superhighways and remain a carrier of carriers for India in the international telecom field. VSNL is a MoU signing Government Company from 1991-1992 and has been ranked 'excellent' for the last six years.

NATIONAL LONG-DISTANCE TELEPHONY

In August 2000, the Government announced new guidelines for opening up long-distance calls to private companies. The highlights of the new policy are: (i) Unrestricted entry for companies in the field of STD service; (ii) free competitions for companies in inter-state STD calls; (iii) licence for a period of 20 years extendable by 10 years at a time; (iv) companies should have networth of Rs 2,500 crore and a paid-up equity capital of Rs 250 crore; (v) foreign equity cap of 49 per cent; and (vi) companies to pay licence fees to the Government up to a maximum of 15 per cent of revenues.

The Government would, however, take a decision to safeguard the interests of VSNL in the face of the new policy.

Bharat Sanchar Nigam Limited has come into existence with effect from 1 October 2000 by the corporatisation of the Department of Telecom Services and the Department of Telecom Operations.

INDIAN TELEPHONE INDUSTRIES LIMITED

The Indian Telephone Industries (ITI) Limited, Bangalore was set up in July 1948. It was converted into a public sector company in January 1950. The company has now seven manufacturing units all over the country: two at Bangalore and one each at Naini, Rae Bareilly, Mankapur, Palakkad and Srinagar (J&K). ITI is the largest manufacturer of telecom equipments in the country and manufactures almost the entire range of telecom products and caters to the requirements of DoT, defence, railways and others. The paid-up capital of the company at present is Rs 88 crore as against their authorised capital of Rs 100 crore. The Government holds 76.67 per cent of the equity.

ITIs' contribution to the country's existing Telecom network has been more than 80 per cent. Today, ITI is the only Indian source for certain leading-edge technologies like SDH on microwave, fibre optic products, etc., and is well ahead of others in the manufacture of Digital Electronic Exchange equipment, VSATs, C-DOT MAX-XL equipments, etc. The Company has also started providing certain value added services, viz., VSAT and Mobile Radio Trunking Service.

HINDUSTAN TELEPRINTERS LIMITED

The Hindustan Teleprinters Limited (HTL) was set up in 1960 for manufacture of electromechanical teleprinters to serve the Telegraph and Telex Networks of DoT. The Company produced and supplied 1.25 lakh Electromechanical Teleprinters till 1989 and thereafter produced 60,000 Electronic Teleprinters with state-of-the-art technology till 1994. With the obsolescence of technology, the Company phased out the manufacture of Teleprinters and embarked on a diversification plan and entered into the fields of manufacture of Digital Electronic Switching Equipment, Transmission Equipment, Data-Terminals, Access products, Main Distribution frames, Power Plants, PCO Monitors, Line Jack Units, etc. The Company has now grown into an advanced telecommunication manufacturer with export status, ISO 9001 Certification. HTL is a fully Government-owned company with paid up capital of Rs 15 crore and authorised capital of Rs 20 crore. The turnover of the company is about Rs 300 crore.

TELECOMMUNICATIONS CONSULTANTS INDIA LIMITED

Telecommunications Consultants India Limited (TCIL) set up in 1978 is now a multi-disciplinary Telecom organisation which provides complete telecom solutions—from concept to completion. TCIL today offers a complete range of communication-related services which includes switching systems, transmission systems, local networks, dedicated networks, satellite communications, rural telecommunications cellular services, optical fibre based backbone network, etc. The company is planning to enter into Global Mobile Personal Communications via Satellite.

TCIL has entered into strategic alliances with top national and international enterprises through joint ventures in the field of cellular services operations, manufacturing of intelligent messaging terminals, jelly-filled cables, and optical fibre cables, access networking, marketing of integrated telecom data management services and execution of turnkey telecom projects

TCIL has its operations spread-over the Middle East, South East Asia, Africa and Europe and Central Asia. It has to its credit such prestigious projects as the rehabilitation of the Telecom network for Kuwait after the gulf war, consultancy for networking through Regional African Satellite Communications Systems (RASCOM) and developing software for the Dutch PIT. In this process, TCIL has bagged appreciations and commendations from clients the world over such as Benin, Republic of Yemen, Botswana, Kuwait,

Zimbabwe and Netherlands to name a few.

The company has secured a prestigious contract from Government of Gujarat for setting up WAN/e-governance, another prestigious Postal constancy contract in addition to a number of contracts of over Rs 300 crore.

Starting with an equity of Rs 10 lakh in 1978, the networth of TCIL today is Rs 298 crore with a turn-over of Rs 710 crore.

INFORMATION TECHNOLOGY - ACTION PLAN

The Government of India constituted a National Task Force on Information Technology and Software Development on 22 May 1998 under the Chairmanship of Jaswant Singh, Deputy Chairperson, Planning Commission, to formulate the draft of the National Informatics Policy. The aim of this policy is to enable India to emerge as a Information Technology Superpower within the next ten years. This Task Force was guided by a 'IT Vision Group' consisting of eminent IT professionals from India and abroad, academicians, civil servants, businessmen and political leaders. The Task Force submitted its First Action Plan Report on the Software Development which was approved by the Government and a Gazette Notification issued on 25 July 1998. This report contained 108 recommendations out of which the first 17 recommendations primarily pertained to the Department of Telecommunications for implementation.

24 Labour

LABOUR policy in India has been evolving in response to specific needs of the situation to suit requirements of planned economic development and social justice and has two-fold objectives, viz., maintaining industrial peace and promoting the welfare of labour.

MINIMUM WAGES ACT, 1948

The Minimum Wages Act, 1948 provides for fixation/revision and review of minimum wages mainly in the un-organised sweated sector. Under the Act, both Central and State governments are appropriate Governments for fixation/revision of minimum wages in respect of the scheduled employments falling under their respective jurisdictions. The Central Government is responsible for the fixation and revision of minimum wages in 44 scheduled employments. Similarly, the State governments/Union Territory administrations have fixed/revised minimum wages in about 1,222 scheduled employments in aggregate.

The Act also provides for periodic revision of minimum rates of wages. The Labour Ministers Conference, held in 1988, recommended evolving a mechanism to protect the minimum wages against inflation. The Central government have already introduced Variable Dearness Allowance (VDA), which is linked to Consumer Price Index (CPI). The VDA is revised every six months, i.e., twice a year effective from 1 April and 1 October. The minimum wages of agriculture labour were revised vide Notification No. SO No. 1085(E) dated 11 November 1999. As regards States, 19 States/Union Territory Administrations have already adopted the VDA. In so far as the revision of minimum wages in respect of the scheduled employments in the Central sphere is concerned, preliminary notification in respect of three mines which have been newly added to the schedule of employments, was issued on 28 December 1999. With regard to other mines, the preliminary notification proposing to revise the minimum rates of wages and seeking objections/suggestions from the organisations/individuals was issued on 29 March 2000.

Regarding employments in construction or maintenance of road/runways or in building operations including laying down underground electric, wireless, radio, television, telephone, telegraph and overseas communication cable and similar other underground cabling work, electric lines, water supply lines and sewerage pipe lines, etc., the preliminary notification was issued on 5 April 2000.

In the absence of a uniform National Minimum wages, a floor-level minimum wage, which is the rock-bottom level, has been introduced by the Central Government. Recently, the floor-level minimum wage has been raised from Rs 40 to Rs 45 per day with effect from 30 November 1999. Proposals to make amendments in the Minimum Wages Act are under consideration of the Government.

PAYMENT OF WAGES ACT

The Payment of Wages Act, 1936 was enacted to regulate the payment of wages to certain classes of persons employed in industry with the object to provide for a speedy and effective remedy to the employees arising out of illegal deductions or unjustified delay made in paying the wages to them. At present the Act applies only to those who are in receipt of wages whose average is below Rs 1,600 per month.

The Central government is responsible for the administration of the Act in railways, mines, oilfields and air transport services, while State governments are responsible in factories and other industrial establishments. In respect of the major ports of Mumbai, Calcutta, Visakhapatnam, Chennai, Kerala, Cochin, Paradeep and Mormugao, however, State governments have appointed the officers of Central Industrial Machinery as inspectors for enforcing the Act. The Government is actively considering various proposals to amend the Act including abolition of the ceiling of Rs 1,600 per month.

WAGE BOARD FOR NEWSPAPER EMPLOYEES

The Working Journalists and Other Newspaper Employees (Conditions of Service) and Miscellaneous Provisions Act, 1955 regulates conditions of service of working journalists and other persons employed in newspaper establishments. The Act provides for the setting up of Wage Boards for fixation and revision of rates of wages in respect of working journalists, newspaper/news agency employees. In the past, the Wage Boards for such employees were set up in the years 1956, 1963, 1975 and 1985. The Wage Boards set up in 1985 under the Chairmanship of Justice U.N. Bachawat submitted its final report in May 1989. The Government accepted the main recommendations of Bachawat Wage Boards and the State governments were requested to implement the recommendations and were also advised to establish tripartite committees/special cells at the state level in this regard. As per information received from the State governments as on 31 October 1999, out of 1,715 newspaper establishments throughout the country, 643 have fully implemented and 26 partially implemented the recommendations of Bachawat Wage Boards. Efforts are continuing to pursue the State governments for effective implementation.

On persistent demands from the working journalists and other newspaper employees for the setting up of Wage Boards to consider wage revisions, the Government, in September 1994, constituted two Wage Boards - one for the working journalists and the other for the non-journalist newspaper and news-agency employees under the common Chairmanship of retired Chief Justice Rajkumar Manisana Singh. The Wage Boards submitted an Interim Report on the interim rates of wages recommending enhancement of wages by 15 per cent of the basic wages to be payable with effect from 20 April 1995. The Government decided to grant interim enhancement of wages at the rate of 20 per cent of basic wages and an additional amount of Rs 100 per month with effect from 20 April 1995.

The Manisana Wage Boards after finalising the recommendations on the wage structure of newspaper employees have submitted their report to the Government on 25 July 2000.

There were also demands from newspaper employees' and employers' organisations for increasing the number of representatives on the Boards. The Government agreeing to provide a wider representation on these Boards introduced a Bill in Parliament for increasing one representative in each category of representations, namely, employers'/employees'/independent members. The Bill was passed by both Houses of Parliament as Working Journalists and Provisions (Amendment) Act, 1996 on 28 September 1996.

PAYMENT OF BONUS ACT, 1965

The Payment of Bonus Act, 1965 provides for payment of bonus to employees as defined under the Act. According to the Act, "employees" means any person (other than an apprentice) employed on a salary or wage not exceeding Rs 3,500 per mensem in any industry to do any skilled or unskilled, manual, supervisory, managerial, administrative, technical or clerical work for hire or reward. However, according to Section 12 of the Act, the bonus is payable to employees whose salary or wage exceeds Rs 2,500 per mensem, has to be calculated as if his salary or wage were Rs 2,500 per mensem. The above wage ceilings under Section 2(13) and Section 12 of the Act respectively were last revised vide Payment of Bonus (Amendment) Ordinance, 1995 promulgated on 9 July 1995 and made effective from 1 April 1993. After the amendment of the Payment of Bonus Act, a number of establishments challenged the retrospective effect of the amendment of the Act by filing writ petitions in various High Courts. The Government decided to contest all such cases and in two cases filed in the High Court of Jaipur, the action of Government of India with regard to the retrospectivity of the notification has been upheld by the Hon'ble Court. The Government is now again considering proposals for review/abolition of wage ceilings prescribed under payment of Bonus Act. The matter is under consideration of the Government.

CONTRACT LABOUR

The Contract Labour (Regulation and Abolition) Act, 1970 has been enacted to regulate the employment of contract labour in certain establishments and for matters connected therewith. The Act provides for the constitution of Central and State Advisory Boards to advise the concerned governments on matters arising out of the administration of the Act.

The Central government has issued a number of notifications prohibiting employment of contract labour in different categories of works, jobs and processes in mines, railways, Food Corporation of India's godowns, port trust, etc. During 1999-2000, seven such notifications have been issued. After the judgement of Supreme Court in *Air India Statutory Corporation Vs United Labour Union and others* (AIR 1997 Supreme Court 645), the Central Government has also become the 'Appropriate Government' for all 129 CPSUs. The 'Appropriate Government' can also exempt an establishment from the

applicability of provisions of the Act or notification issued under it. During 1999-2000, three establishments have been granted exemption from the applicability of prohibitory notifications.

CHILD LABOUR

India has all along followed a proactive policy in the matter of tackling the problem of child labour, and always stood for constitutional, statutory and developmental measures that are required to eliminate child labour. India has ratified six ILO conventions relating to child labour and three of them as early as in the first quarter of the twentieth century. Action has already been initiated for ratification of ILO Convention No. 182 concerning Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour adopted at the 87th Session of the International Labour Conference. Legislative provisions have been made in various laws to protect children from exploitation at work and to improve their working conditions. In addition, a comprehensive law namely the Child Labour (Prohibition and Regulation) Act, 1986 prohibits employment of children in certain hazardous occupations and processes and regulates their employment in some other areas. Through a Notification dated 27 January 1999, the Schedule to the Act has been substantially enlarged bringing the total number of occupations and processes listed in the Schedule to 13 and 51 respectively.

The National Policy on Child Labour was formulated in 1987 which apart from requiring enforcement of legal provisions to protect the interests of children, envisages focussing of general development programmes for the benefit of child labour and project-based plan of action in areas of high concentration of child labour. Under the project action plan of the policy, National Child Labour Projects (NCLP) have been set up in different areas to rehabilitate child labour. A major activity undertaken under the NCLP is the establishment of special schools to provide non-formal education, vocational training, supplementary nutrition, etc., to children withdrawn from employment. The programme for elimination of child labour received further impetus after the announcement of the new programme for rehabilitation of children working in hazardous employments. Under the programme, 93 projects have been sanctioned to cover around 1.9 lakh working children in Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal and Punjab. The Government has approved continuance of the scheme of National Child Labour Projects (NCLP) during the Ninth Plan. The Government also approved increase of the projects up to 100.

The number of working children who have been covered by special schools is a minuscule of the total number of working children waiting to be released and rehabilitated. The ultimate objective of the National Child Labour Projects is to convert working children into productive and participative members of society. Considering the magnitude of the problem and paucity of resources - human, material and financial, a sequential, gradual but integrated approach has been adopted.

The Government commitment to the problem of child labour is reflected in the announcement made in the National Agenda for Governance (1998). The agenda states that the aim is to ensure that no child remains illiterate, hungry or lacks medical care and that measures will be taken to eliminate child labour. The need for time-bound action has also been emphasised by the Hon'ble Supreme Court. The Supreme Court of India, in its judgement dated 10 December 1996 in Writ Petition (Civil) No. 465/1986 has given certain directions regarding the manner in which the children working in the hazardous occupations are to be withdrawn from work and rehabilitated as also the manner in which the working conditions of the children working in non-hazardous occupations are to be regulated and improved upon. The important directions given in the judgement includes payment of compensation amounting to Rs 20,000 by the offending employers for every child employed in hazardous occupations, constitution of the Child Labour Rehabilitation-cum-Welfare Fund, giving alternative employment to an adult member of the family in place of the child withdrawn from the hazardous occupation or payment of an amount of Rs 5,000 for each child employed in hazardous employment by the appropriate Government, completion of the survey of working children within a period of six months (i.e., by 10 June 1997), payment of interest on the corpus of Rs 25,000 (Rs 20,000 to be paid by the employer and Rs 5,000 to be contributed by the appropriate government) to the family of the child withdrawn from work, provision of education in a suitable institution for the child withdrawn from work, etc. The Government has already initiated steps for giving effect to the directions of the Supreme Court.

WOMEN LABOUR

Women constitute a significant part of the work force of India but they lag behind men in terms of level and quality of employment. The Census of India has registered 22.73 per cent of female population as workers, 90 million in absolute terms out of a total female population of 407 million. The majority of women workers are employed in the rural areas. Amongst rural women workers, 87 per cent are employed in agriculture as labourers and cultivators. Amongst the women workers in the urban areas, 80 per cent are employed in unorganised sectors like household industries, petty trades and services, building and construction, etc. The employment of women in the organised sector (both public and private sectors) as on 31 March 1997 was about 4.637 million. This constitutes 16.4 per cent of the total organised sector employment in the country. The distribution of women employees in major industries reveals that community, social and personal services sectors continued to absorb the majority of women employees. The lowest employment of women was noticed in electricity, gas and water sectors. In factory, mine and plantation establishments women workers constitute 12 per cent, 6 per cent and 52 per cent of the total work force respectively.

The main focus of the policies of the Government with regard to women labour has been to remove the handicaps under which they work, to strengthen

their bargaining capacity, to improve their wages and working conditions, to enhance their skills and to open up better employment opportunities for them. A separate cell, namely, Women Labour Cell is functioning in the Ministry of Labour to address these problems. The Maternity Benefit Act, 1961 and Equal Remuneration Act, 1976 are the protective and anti-exploitative legislations which have been enacted to protect and safeguard the interests of women workers at the workplaces. The Equal Remuneration Act stipulates payment of equal remuneration to men and women workers for same and similar nature of work. The Act also prohibits any gender discrimination in recruitment and service conditions. Under the Act, a committee has been set up at the Centre to advise the Government on providing increasing employment opportunities for women and generally reviewing the steps taken for effective implementation of the Act. Similar committees have also been set up by the State governments and Union Territory administrations. The Central Advisory Committee at the National level and the Advisory Committee at the State level along with competent authorities oversee the process of implementation of the Equal Remuneration Act.

The Supreme Court of India in its landmark judgement dated 13 August 1997 in the matter of *Visakha and others versus the State of Rajasthan and others* laid down detailed guidelines/norms for prevention of sexual harassment of women workers at work-places. These guidelines have the force of law under Article 141 of the Constitution of India.

The Government has taken a number of initiatives to give effect to the guidelines laid down by the Supreme Court. These include circulation of the guidelines for action as indicated therein to all Secretaries to the Government of India/Chief Secretaries of the State governments/Union Territories, Heads of Central Public Sector Undertakings and employees/employers organisations. Conduct Rules applicable to Government employees and officers of All India Services have been amended to incorporate Supreme Court guidelines. To make the guidelines applicable to employees in private sector, the Industrial Employment (Standing Orders) Act, 1946 has also been amended accordingly.

BONDED LABOUR

Bonded Labour System stands abolished in the country from 1975 through the Bonded Labour System (Abolition) Act, 1976. The Act envisages release of all bonded labourers, liquidation of their debts and their rehabilitation. Incidence of bonded labour system has been reported from 13 States, viz, Arunachal Pradesh, Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh.

Under the Bonded Labour System (Abolition) Act, 1976, identification and release of bonded labourers and rehabilitation of freed bonded labourers is the direct responsibility of the State government concerned. For the purpose of implementing the provisions of the Act, State governments may confer necessary powers on the District Magistrates. With a view to supplementing efforts of

State governments a Centrally-sponsored scheme has been in existence since 1978-79 under which State governments are provided Central financial assistance for rehabilitation of released bonded labourers. The scheme envisages provision of rehabilitation grant up to a ceiling limit of Rs 10,000 per bonded labourer, half of which is given as Central share. The pattern of assistance under this scheme can be either land-based, non-land based or skill-craft based. A sum of Rs 50,32,45,500 has been released under this scheme since 1978-79 till 31 March 2000 for rehabilitation of 2,51,569 bonded labourers. The State governments have also been advised to suitably integrate/dovetail the Centrally-sponsored scheme with other on-going anti-poverty schemes so as to pool the resources for effective rehabilitation of bonded labour.

LABOUR RESEARCH AND TRAINING

V.V. GIRI NATIONAL LABOUR INSTITUTE

V.V. Giri National Labour Institute, Noida (Uttar Pradesh) (earlier known as National Labour Institute), an autonomous body under the Ministry of Labour, Government of India, is engaged in research pertaining to labour and training of labour administrators, trade unions, public-sector managers and other government functionaries concerned with labour. The Institute has focussed its attention on child labour also. The Union Minister of Labour is the President of the Institute. The Institute has a 17-member General Council comprising representatives of Central government, organisations of employers and workers and Members of Parliament and distinguished persons who have made noteworthy contributions in the field of labour. The General Council elects the Executive Council, which is responsible for the management of the affairs of the Institute. The Chairman of the Executive Council is appointed by the Central government. At present, Labour Secretary of the Government of India is the Chairman. Director is the principal executive of the Institute.

WORKERS' EDUCATION

Workers' Education programmes are undertaken by the Central Board for Workers' Education (CBWE) established in 1958. It is a tripartite society registered under the Societies Registration Act, 1860, and implements the workers' education programmes at national, regional and unit/village levels. The focus of the education programmes is to create awareness among all sections of the working class about their rights and obligations for their effective participation in the socio-economic development of the country. The Board undertakes training programmes which cover workers from organised, unorganised, rural and informal sectors. Supervisory and managerial cadres are also covered through joint education programmes.

With headquarters at Nagpur, the Board has a network of 49 regional and 14 sub-regional centres spread throughout the country. The four zonal directorates at Delhi, Calcutta, Mumbai and Chennai monitor the activities of the regional centres. The Board has set up Indian Institute of Workers Education at Mumbai to conduct national-level training programmes.

WORKERS' SAFETY

SAFETY, HEALTH AND WELFARE OF WORKERS IN FACTORIES

The Factories Act, 1948 is the principal legislation for regulating various aspects relating to safety, health and welfare of workers employed in factories. This Act is a Central enactment which aims at protecting workers employed in factories from industrial and occupational hazards. State governments and union territory administrations frame rules under the Act and enforce provisions of the Act and rules through their factory inspectorates. The Directorate General, Factory Advice Service and Labour Institute (DGFASLI), Mumbai, an attached office of the Ministry of Labour, renders technical advice to the States/Union Territories in regard to administration and enforcement of the Factories Act. With four regional labour institutes at Mumbai, Calcutta, Kanpur and Chennai under its control, the DGFASLI also undertakes support research facilities and carries out promotional activities through education and training in matters concerning occupational safety and health. The Directorate General also reviews the position regarding implementation and enforcement of the Act.

Prescribing a 48-hour week for adult workers, the Factories Act forbids employment of children under 14 years of age in any factory. Minimum standards of lighting, ventilation, safety and welfare services which employers must provide in their factories have also been laid down. Factories employing over 30 women workers are required to provide a creche for their children. Shelters, rest-rooms and lunch-rooms are required to be provided by factories employing over 150 workers. Factories with 250 workers or more have to appoint welfare officers. The Factories Act was amended in 1987 in order to impose a general duty on occupiers to ensure health and safety of workers and on designers, manufacturers, importers and suppliers to ensure that articles designed, manufactured, etc., are without risk to health and safety of workers. A new chapter for regulating safety and health aspect in hazardous industries was incorporated in the Act.

SAFETY IN PORTS AND DOCKS

Provisions relating to safety, health and welfare of workers employed in docks are contained in the Dock Workers (Safety, Health and Welfare) Act, 1936 and rules and regulations framed thereunder. The Act came into force on 15 April 1987. Enforcement of this Act in all the major ports is the responsibility of the Ministry of Labour and this responsibility is discharged through the DGFASLI, Mumbai. The DGFASLI being the Chief Inspector of Docks is also entrusted with the responsibility of enforcing in major ports the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 framed under the Environment (Protection) Act, 1986.

SAFETY IN MINES

Provisions for safety, health and welfare of workers employed in mines are contained in the Mines Act, 1952 and rules and regulation framed thereunder. These provisions are enforced by the Ministry of Labour through the Directorate

General of Mines Safety. The Directorate General with its headquarters at Dhanbad and its zonal, regional and sub-regional offices spread all over the mining areas in the country has for its functions: inspection of mines, investigation of all fatal accidents and also certain serious accidents depending upon the gravity of the situation, grant of statutory permission, exemptions and relaxations in respect of various mining operations, approval of mines safety equipment, appliances and material conduct examinations for grant of statutory competency certificate, safety promotional incentives including organisation of national awards and national safety conferences, etc.

NATIONAL SAFETY COUNCIL

The National Safety Council was set up in 1966 to promote safety consciousness among workers to prevent accidents, minimise dangers and mitigate human suffering, arrange programmes, lectures and conferences on safety, conduct educational campaigns to arouse consciousness among employers and workers and collect educational and information data, etc. National Safety Day is celebrated on 4 March every year to mark the foundation day of the National Safety Council.

AWARDS

PRIME MINISTER'S SHRAM AWARDS

Prime Minister's *Shram* Awards are given to workmen of the departmental undertakings and the public-sector undertakings of the Central government and State governments in recognition of their outstanding contribution to production and for showing exemplary zeal and enthusiasm in the discharge of their duties. The awards, in order of precedence, are: *Shram Ratna*, *Shram Bhushan*, *Shram Vir* and *Shram Shri/Devi* and the recognition consists of a *Sanad* and a cash award. From 1997, the amount of cash award is Rs two lakh, Rs one lakh, Rs 60,000 and Rs 40,000 respectively.

NATIONAL SAFETY AWARDS

To give recognition to good safety performance on the part of the industrial undertakings and to stimulate and maintain the interest of both management and workers in accident prevention programmes, the Government instituted in 1965 the National Safety Awards. The scheme is applicable to factories and docks.

The National Safety Awards for mines were instituted in 1983. The scheme is designated to give recognition to outstanding safety performances of mines of national level which come within the purview of the Mines Act, 1952. There are 32 awards, 16 winners and 16 runners-up, which are given to the management.

VISHWAKARMA AWARDS

Shram Vir Awards which are now known as *Vishwakarma Puraskar* were

instituted in 1965. These are meant for workers of factories, mines, plantations and docks and are given to them in recognition of their meritorious performance which leads to high productivity or economy or higher efficiency.

EMIGRATION

The Emigration Act, 1983 which came into force with effect from 30 December 1983 regulates emigration of citizens of India for employment in other countries on contractual basis and seeks to safeguard the interest of such workers. Under the provisions of the Act, an employer can recruit any citizen of India for employment in any country or place outside India either through Recruiting Agent competent under the Act to make such recruitment or directly in accordance with a valid permit issued by the Central government under the Act. The competent authorities to grant permit for deployment of Indians abroad are the Protector General of Emigrants (PGE) and the Heads of Indian Missions abroad. The Act also provides that anyone intending to recruit Indians for employment abroad can do so after obtaining a Registration Certificate from the PGE under the provisions of the Act. State Manpower Corporations are also in operation in Kerala, Himachal Pradesh, Punjab, Tamil Nadu, Andhra Pradesh, Uttar Pradesh, Haryana, Karnataka, and Union Territory of Delhi. Agents are allowed to charge up to Rs 2,000 in the case of unskilled workers, Rs 3,000 in the case of semi-skilled workers, Rs 5,000 in the case of skilled workers and Rs 10,000 in the case of other categories, from each emigrant as charges for various services rendered in connection with their employment abroad.

The Act provides for legal and penal action against unscrupulous recruiting agents. Various offences including cheating of emigrants have been made cognizable under the Act. The Ministry of Labour has taken action against various agents for their defaults under various provisions of the Act. A system of public hearing has been introduced in the office of the Protector General of Emigrants and in the offices of the Protector of Emigrants located at Mumbai, Cochin, Chennai, Thiruvananthapuram, Calcutta, Hyderabad and Chandigarh. Senior officers including the PGE are available for redressal of grievances of the public without prior appointment on two days of the week, Tuesday and Friday.

Seventeen categories of persons are not required to obtain emigration clearance for seeking employment abroad. They are entitled to get the stamp of 'Emigration Check Not Required' (ECNR) on their passports from the passport office by showing proof of their eligibility. Such individuals are: (i) persons going abroad in managerial capacity in hotels, restaurants, tea-houses or other places of public resort, etc., possessing specialised degrees in these fields; (ii) all gazetted Government servants; (iii) all income-tax payers including agricultural income-tax (actual payment of income-tax for the last three years to be insisted upon, and not merely payment of advance tax); (iv) all professional-degree holders, such as doctors holding MBBS degrees or degrees in Ayurveda or Homeopathy, accredited journalists, engineers, chartered accountants, cost accountants, lecturers, teachers, scientists, advocates, etc.; (v) spouses and

dependent children of category of persons listed from (ii) to (iv) above, (vi) all persons who have been staying abroad for more than three years (the period of three years could be either in one stretch or broken) and spouse, and children of such persons; (vii) seamen who are in possession of CDC and Sea Cadets, and Desk Cadets (1) who have passed final examination of three years B.Sc. Nautical Sciences Courses at T.S. Chanakya, Mumbai, and (2) who have undergone three months pre-sea training at any of the Government-approved training institutes such as T.S. Chankya, T.S. Jawahar, MTI(SCI) and NIPM, Chennai after production of identity cards issued by the Shipping Master, Mumbai, Calcutta and Chennai; (viii) all holders of diplomatic/official passports; (ix) dependent children of parents whose passports are classified as ECNR (in the case of such children, ECNR classification to be restricted until they attain 24 years of age); (x) persons holding permanent immigration visas, such as in UK, USA and Australia; (xi) persons holding graduation or higher degrees; (xii) persons holding diplomas from recognised institutions like polytechnic; (xiii) nurses possessing qualifications recognised under the Indian Nursing Council Act, 1947; (xiv) all persons above the age of 60 years; (xv) all visitors to Pakistan and Bangladesh; (xvi) all persons going to any country in Europe or North America and (xvii) Government/Government-recognised institutions.

The emigration procedure has further been simplified. A worker belonging to any of the following six categories, viz., supervisors (all professions); skilled workers (all professions); semi-skilled workers (all professions), light/medium/heavy vehicle drivers; clerical workers of all categories including stenographers, store-keepers, time-keepers, typists, etc., and cooks excluding those in domestic employment and having valid employment visa endorsed on his passport, can either approach the POEs or the passport authorities through registered Recruiting Agents for ECNR endorsement on his/her passport.

The pilgrims going for *Haj* and *Umrah* in Saudi Arabia and those pilgrims travelling with the declared purpose of performing *Ziarat* to Saudi Arabia, Syria, Iran, Iraq, Jordan, Egypt and Sana (Yemen) have been exempted from the requirement of obtaining/suspension from 'Emigration Check Requirement' from Protector of Emigrants/Passport Offices. Similarly persons/workers going to Japan, Australia and New Zealand for jobs or otherwise have also been exempted from the requirement of obtaining Emigration clearance. A proposal for setting up a welfare fund for emigrant workers is also under consideration which will be utilised for meeting the eventualities like transportation of stranded workers, transportation of dead bodies of workers who die while in service with the foreign employers, payment of lumpsum financial assistance to the families of such workers who die/become disabled while working with foreign employers, etc.

INDUSTRIAL RELATIONS

TRADE UNIONS ACT

The Trade Unions Act, 1926 basically provides for registration of trade unions.

Any seven or more workers may, by subscribing their names to the rules of a trade union and otherwise complying with the provisions of the Act with respect to registration, apply for registration of the trade union under the Act.

CODE OF DISCIPLINE

The Code of Discipline was evolved at the Indian Labour Conference in 1958 requiring employers and workers to utilise the existing machinery for the settlement of disputes. It was accepted by all the Central organisations of employers/workers and several others. Under the Code of Discipline the implementing organisations assist in settling the disputes pertaining to Central or state affairs. The Central organisations of employers, workers and public-sector undertakings excluding the All India Trade Union Congress (AITUC) in this context have set up committees or cells for screening cases.

SCREENING PROCEDURE

A screening procedure has been evolved to check prolonged litigation by the public sector undertakings in filing appeals in industrial dispute cases on which an award or a judgement has been given by an Industrial Tribunal or a Court. Under this procedure, only after obtaining the concurrence of the concerned administrative Ministry and the Law Ministry on the need for filing an appeal by the public sector undertakings on an award of Judgement of the Labour Court/Tribunal, High Court, etc., the case is referred to the Labour Ministry. In case the Labour Ministry and the concerned administrative Ministry do not agree, the matter is placed before the committee of economic secretaries.

LAY-OFF/RETRENCHMENT AND CLOSURES

The layoffs, retrenchments and closures are regulated under the provisions of the Industrial Disputes Act, 1947. The Government has taken steps to further regulate lay-offs, retrenchments and closures through the Industrial Disputes (Amendment) Acts of 1982 and 1984. Accordingly, under the Act, any worker who has completed not less than one year of continuous service is entitled to a minimum amount of compensation for retrenchment/closure.

TRIPARTITE INDUSTRIAL COMMITTEE

A special Tripartite Committee was constituted by the Ministry of Labour on 12 November 1991 to consider the impact of New Industrial Policy on Labour and other related matters and make appropriate decisions. Based on the decision of this Committee seven Industrial Tripartite Committees namely on Sugar, Cotton Textiles, Road Transport, Electricity (Generation and Distribution), Jute, Chemical and Engineering have been constituted to look into the specific problems of sickness in industries. As and when a need arises, these Committees hold meetings and discuss problems emanating from various policy decisions of the Government such as globalisation and liberalisation.

SECOND NATIONAL COMMISSION ON LABOUR

The First National Commission on Labour was constituted on 24 December 1966. After detailed examination of all aspects of labour problems in the organised and unorganised sector, the Commission submitted its report in August 1969. The need for setting up of the Second National Commission on Labour had been felt for the following reasons: (i) With the pace of industrialisation and urbanisation, there has been substantial numerical increase in the labour force during the past three decades; (ii) After the implementation of new economic policy in 1991, changes have taken place in the economic environment of the country which have in turn brought about radical changes in the domestic industrial climate and labour market; and (iii) Changes have occurred in the industry and character of employment at the work places, in hours of work and overall change in the scenario of industrial relations. These changes have resulted in certain uncertainties in the labour market requiring a new look to the labour laws.

Accordingly the Government decided to set up the Second National Commission on Labour on 24 December 1998. The first meeting of the Commission was held on 4 November 1999. It was decided at the meeting *inter-alia* to constitute six study groups on the following subjects: (i) Review of Laws; (ii) Rural/Informal Sector employment/umbrella legislation; (iii) Globalisation and its impact; (iv) Social Security; (v) Woman and Child Labour; and (vi) Skill Development, Training and Workers' Education. The Second meeting of the Commission was held on 15 March 2000. From 16-18 March 2000, the Commission invited the Central Trade Unions and Employers' Organisations for a preliminary discussion of perspectives, expectations and identification of crucial areas so that it may familiarise itself with initial views of the organisations regarding functioning of National Commission on Labour. Some trade unions responded and appeared before it for discussion. Among the Employers' Organisations, some sought to make a joint presentation which was agreed to by the Commission. The Commission has visited Mumbai during 3-7 July 2000 for interacting with the State Government.

TRAINING

In an endeavour to help the youth build their career, the Directorate General of Employment and Training (DGE&T) has evolved various training programmes. These are formulated within the national framework as far as possible and also in collaboration with foreign countries.

CRAFTSMEN TRAINING

Industrial Training Institutes (ITIs) were set up all over the country to impart skills in 43 engineering and 24 non-engineering trades to young men and women in the age-group of 15-25. By 31 December 1999, 4,172 such institutes with a total capacity of about 6.77 lakh were providing training to craftsmen in the country. The duration of the course is one or two years for engineering trades and one year for all non-engineering trades. Educational qualification

for admission vary from eighth standard to twelfth standard depending upon the trades. Besides these 67 trades, some State governments and union territories have introduced training in certain trades to meet the requirements of local industries under the jurisdiction of state councils for vocational training.

CRAFTS INSTRUCTORS' TRAINING

Advanced Training Institutes (ATIs) at Howrah, Mumbai, Kanpur, Ludhiana and Hyderabad and the Central Training Institute for instructors at Chennai, were established in 1960s to train instructor trainees in the techniques of imparting industrial skills, who in turn train and make available skilled manpower for industry. These institutes with a seating capacity of 1,016 offer a series of one-year courses which provide comprehensive training, both in skill development and principles of teaching. Refresher courses are also conducted to update and upgrade the knowledge and skill of the instructors and keep them abreast of technological development in industry. Facilities for training of instructors in some selected special trades continue to be available in printing trades at ATI, Kanpur, farm mechanic trades at ATI, Ludhiana, and mill-wright trades at ATI, Kanpur, Howrah and Ludhiana, where seats for scheduled caste and scheduled tribe candidates are reserved as per the Government of India norms.

ADVANCED VOCATIONAL TRAINING SCHEME

Advanced Vocational Training Scheme was launched in October 1977 for training of highly skilled workers and technicians in a variety of advanced and sophisticated skills not available for other vocational training programmes. Regular full-time courses of two to 12 weeks' duration are offered under the scheme in a variety of advanced skill areas. The scheme was introduced in six advanced training institutes located at Mumbai, Calcutta, Hyderabad, Kanpur, Ludhiana, Chennai and 16 selected industrial training institutes under 15 State governments. These institutes which were modernised to conduct various advanced courses under the scheme have an annual capacity to train about 10,000 industrial workers.

WOMEN'S VOCATIONAL TRAINING PROGRAMME

Vocational Training facilities for Women in the country are organised through a net-work of 226 Women Industrial Training Institutes and 451 Women Wings and private ITIs with a seating capacity of about 44,692 under the control of State governments. In 1996 National Council for Vocational Training recommended that in general ITIs, up to 25 per cent of the sanctioned seats might be reserved for women candidates. These seats could be filled up based on general reservation policy of each of the State/UTs, the total reservation being limited to 50 per cent. Under the Vocational Training Programme managed directly by the Government of India, Ministry of Labour, DGE&T, a National Vocational Training Institute at Noida as an apex centre and 10 Regional Vocational Training Institutes at Mumbai, Bangalore, Thiruvananthapuram, Calcutta, Hissar, Tura, Allahabad, Indore, Vadodara and

Jaipur have been set up with an intake capacity of 1,936 in basic, advanced and instructional skills. Besides this short-term courses are also organised as per availability of infrastructural facilities. Till March 2000 more than 21,500 women candidates have been trained in these institutes since inception.

CENTRAL INSTRUCTIONAL MEDIA INSTITUTE

Central Instructional Media Institute (CIMI) has been set up in Chennai to make available instructional materials in the form of Media Packages (MPs) for the use of trainers and trainees in the ITIs and apprentices under the Apprenticeship Training Scheme. The Institute has developed various elements of instructional media packages (IMPs) comprising instructional materials, instructors' guide, wall-charts, overhead textbooks and transparencies on technology, land workshop calculations and science. CIMI was granted autonomy with effect from 1 April 1999.

FOREMEN TRAINING/SUPERVISORY TRAINING

Training programmes for supervisors/foremen for industry are organised at two Foremen Training Institutes located at Bangalore and Jamshedpur.

CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE

Central Staff Training and Research Institute, Calcutta, was set up in 1968 by the Government of India in collaboration with the Government of Republic of Germany. The Institute has three Wings-Training, Research and Development. The Training Wing provides training to the executives and administrators of vocational and industrial training in the country. The Research Wing conducts problem-oriented studies on different aspects of vocational training and the Development Wing is to develop and disseminate instructional material and aid/models for effective execution of industrial training.

APPRENTICESHIP TRAINING SCHEME

The Apprentices Act, 1961 makes it obligatory for employers in specified industries to engage apprentices for undergoing Apprenticeship Training, which varies from one year to four years. The training consists of basic training followed by on-the-job or shop floor training in accordance with standards prescribed by the Government in consultation with the Central Apprenticeship Council. So far 256 industries have been specified and 137 trades designated for trade apprentices.

The Apprenticeship Act, 1961 was amended in 1973 to bring under its purview the training of graduate and technician (vocational) apprentices, graduates and Diploma holders in Engineering and Technology. The Act was again amended in 1986 to include technician (vocational) apprentices for the benefit of students passing out of the 10+2 vocational education stream. The Act was further amended in 1997 to improve the performance of Apprenticeship Training Programme.

EMPLOYMENT

Employment in the organised sector, i.e., in all public-sector and non-agricultural establishments employing ten or more persons in private sector, decreased from 282.45 lakh in March 1997 to 281.66 lakh in March 1999, a decrease of 0.28 per cent. The increase in private sector employment during 1997-98 was 0.72 per cent and the decrease in public sector was 0.72 per cent. The primary objective of the Ninth Plan will be to generate greater productive employment in the growth process itself by concentrating on sectors, sub-sectors and technologies which are more labour intensive in regions characterised by higher rates of unemployment and underemployment.

NATIONAL EMPLOYMENT SERVICE

The National Employment Service (NES) has a network of 953 employment exchanges/University Employment Information and Guidance Bureaux (UEIGBX) as on 30 June 1999. The exchanges assist all employment seekers including special groups like handicapped, ex-servicemen, scheduled castes and scheduled tribes, women, etc., through placement against jobs notified by employers. NES also carries out other functions such as vocational guidance and employment counselling, coordination and dissemination of employment market information and conducts studies in the field of employment and occupational research with a view to generating data for framing employment and manpower policies. Computerization of exchanges is continuing to improve their working.

Under the Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959, it is obligatory for all establishments in the public sector and such of those non-agricultural establishments in the private sector as employ 25 or more workers to notify their vacancies (with certain exemptions) to employment exchanges and supply periodic information as prescribed in the Act and in the rules under it. Development of these programmes at the national level particularly in the area of evolving common policies, laying down common standards and procedures, training of officers and evaluation of the programme is the responsibility of the Central government. The day-to-day administration of the employment exchanges on the other hand, rests with the State governments/UT administrations. There are 40 special exchanges for the physically handicapped. Eighteen vocational rehabilitation centres provide a comprehensive package of rehabilitation services to the handicapped.

VOCATIONAL GUIDANCE

Vocational guidance and employment counselling services are provided to youth (applicants without any experience) and adults (with specific work experience). Such units functioned in 354 employment exchanges as on March 2000. In addition, Employment Information and Guidance Bureaux are functioning in 85 Universities. These units assist applicants and youth in planning their career. A special scheme operates in 23 selected districts on a pilot basis to motivate and guide job-seekers to take up self-employment.

SC/ST JOB SEEKERS

Coaching and guidance centres for scheduled castes and scheduled tribes functioning at Delhi, Chennai, Kanpur, Jaipur, Hyderabad, Bhopal, Meerut, Patna, Surat, Jalgaon, Ranchi, Coimbatore, Mysore, Bangalore, Hapur, Dehra Dun, Warangal, Nagpur, Mumbai, Guwahati, Kolkata, Jodhpur, Jaipur and Bikaner providing training, guidance, pre-employment guidance, post-employment training, pre-recruitment training and special coaching in typing and shorthand to job-seekers.

WORKING CONDITIONS AND WELFARE

The Ministry of Labour is administering five welfare funds for beach care and maintenance of employees in the country. The funds have been set up under the following Acts of Parliament for the welfare of these workers: (i) The Mines Labour Welfare Fund Act, 1946; (ii) The Iron and Steel Mills and Iron Works Labour Welfare Fund Act, 1946; (iii) The Iron Ore, Manganese Ore and Chromite Ore Mines Labour Welfare Fund Act, 1946; (iv) The Brick Workers' Welfare Fund Act, 1946; and (v) The Coal Miners' Welfare Fund Act, 1948. In order to be eligible for the benefits and facilities in the Acts, certain welfare schemes in the field of health, education, housing, recreation, social security and water supply have been formulated and are under operation.

The funds are financed out of the proceeds of cess levied under respective Central Acts on manufactured goods feature (i) the export of iron ore, manganese ore, chromite ore, bauxite and iron scrap and (ii) export of iron, manganese ore & chrome ore.

SOCIAL SECURITY

WORKMEN'S COMPENSATION ACT, 1923

A beginning was made in social security with the passing of the Workmen's Compensation Act, 1923. The Act provides for payment of compensation to workmen and their dependents in case of injury and death from any accident, occupational, arising out of and in the course of employment and resulting in loss of earning capacity. The Act applies to railway servants and persons employed in any such capacity as is specified in Schedule II of the Act. Section 2 of the Act defines persons employed in factories, mines, plantations, construction, agriculture, stock raising, construction, works and other establishments. Maximum rates of compensation for permanent total disablement and death have been fixed at Rs 60,000 and Rs 50,000 respectively. Maximum amount for death and permanent total disablement can go up to Rs 2.28 lakh and Rs 1.84 lakh respectively, depending on age and wages of workmen.

MATERNITY BENEFITS

The Maternity Benefit Act, 1948, regulates employment of women in certain establishments for a certain period before and after childbirth and provides for maternity and other benefits. The Act applies to mines, factories, circus

industry, plantation shops and establishments employing 10 or more persons, except employees covered under the Employees' State Insurance Act, 1948. It can be extended to other establishments by the state governments. There is no wage limit for coverage under the Act.

GRATUITY SCHEME

The Payment of Gratuity Act, 1972 is applicable to factories, mines, oil fields, plantations, ports, railways, motor transport undertakings, companies, shops and other establishments. The Act provides for payment of gratuity at the rate of 15 days' wages for each completed year of service subject to a maximum of Rs. 35,000. In the case of seasonal establishment, gratuity is payable at the rate of seven days' wages for each season. The Act does not affect the right of an employer to recover better terms of gratuity under any award or agreement or contract with the employer.

EMPLOYEES' STATE INSURANCE SCHEME

The Employees' State Insurance Act is special law in the field of social security. It covers seasonal factories, power and engineering, 10 or more persons and non-power group factories employing 20 or more persons. Under the existing provisions contained in the Act, the Act is being extended by the state governments to new classes of establishments covering shops, firms, restaurants, etc., including premises, theatres, road motor transport undertakings and newspaper establishments employing 20 or more persons. It covers a person drawing wages not exceeding Rs. 6,500 with effect from 1 January 1976. The Act provides medical care, sick and maternity benefits, the maintenance of sickness, maternity and employment injury and provident fund benefits in the event of the death of a worker because of employment. Employees are also insured against the nature of a wage being progressively reduced when some members of the family of the insured person. As on 1 March 1976, there were 24.11 lakh insured and 41.65 lakh with Rs. 242 beds and 1,696 dispensaries under the scheme. The total number of employees insured was about 88 lakh.

EMPLOYEES' PROVIDENT FUND

In accordance with the provisions of the Provident Fund Act, 1948, persons are insured under the Employees' Provident Fund and Miscellaneous Provisions Act, 1948. As on 1 March 1976, the Act covered 1,000 industrial units of establishments with about 1.1 crore employees. Coverage under the Act is presently restricted to establishments employing 10 or more persons. Provident fund is lent to those employees, according to their present needs. Minimum rate of contribution under the Act is 1 per cent. However, rate of contribution is 7.5 per cent for establishments employing 20 or more persons has been increased to 11 per cent under the Act, employees are required to make a matching contribution.

EMPLOYEES' DEPOSIT INSURANCE SCHEME

Another important social security measure, Employees' Deposit Insurance

Scheme, 1976 was introduced for members of the Employees' Provident Fund and exempted provident funds with effect from 1 August 1976. On the death of a member, the person entitled to provident fund accumulation would be paid an additional amount equal to average balance in provident fund account of the deceased during the preceding twelve months. The maximum amount of benefit payable under this scheme is Rs 60,000 and the employees do not have to make any contribution to it.

EMPLOYEES' PENSION SCHEME, 1995

This scheme was introduced for the industrial workers with effect from 16 November 1995. Under the Scheme, pension at the rate of 50 per cent pay is payable to the employees on retirement/super-annuation on completion of 33 years' contributory service. A minimum 10 years' service is required for entitlement to pension. Depending upon the salary and service of the employee at the time of death the scheme also provides for grant of family pension ranging from Rs 450 per month to Rs 2,500 per month. In addition, children-pension at the rate of 25 per cent of widow pension subject to a minimum of Rs 150 per child is also payable up to two children. The scheme is financed by diverting the employer's share of provident fund representing 8.33 per cent of the monthly wage to the pension fund. In addition, the Central government also contributes to the scheme at the rate of 1.16 per cent of the wage.

25 Housing

NATIONAL HOUSING AND HABITAT POLICY

HOUSING is a state subject, but, the Union Government is responsible for the formulation of policy with regard to programmes and approaches for effective implementation of the social housing schemes, particularly those pertaining to the weaker sections of the society. A new Housing and Habitat Policy 1998 has been formulated to address the issues of sustainable development, infrastructure and for strong public-private partnership for shelter delivery. The objectives of the policy are to create surpluses in housing stock and facilitate construction of two million additional dwelling units each year in pursuance of the National Agenda for Governance. It also seeks to ensure that housing along with supporting services is treated as a priority sector at par with infrastructure. The central theme of the policy is strong public-private partnerships for tackling housing and infrastructure problems. The Government would provide fiscal concessions, carry out legal and regulatory reforms and create an enabling environment.

The problem of housing shortage compounded with the population explosion has also been addressed by this policy. This document clearly identifies the respective roles of the Central Government, the State Government, local authorities, financial institutions, research standardization and technical institutions. However, housing being a state subject, the State governments have to play the primary role in formulating specific action plans and programmes suited to local needs and conditions in consultation with local bodies and citizen groups. The National Agenda for Governance has identified Housing for All as a priority area, with particular emphasis on the needs of the vulnerable groups. As per this programme, it is proposed to facilitate construction of 20 lakh additional units every year, with emphasis on economically weaker sections (EWS) and low income group (LIG) sections of the population as also the needs of SC/ST and other vulnerable groups. Out of 20 lakh additional houses, seven lakh houses will be constructed in the urban areas and remaining 13 lakh in the rural areas. This would require an additional investment of around Rs 4,000 crore per year.

HOUSING FINANCE

The following initiatives have been taken recently as part of implementation of National Housing and Habitat Policy: (a) An Action Plan has been drawn up to achieve the target of Shelter for All enunciated in the National Agenda for Governance. Construction of seven lakh additional dwelling units in urban areas will be facilitated by the Government by providing fiscal and technological support. It will require all-round involvement of private sector/cooperatives and NGOs/CBOs (Community Based Organisations); (b) The National Housing Bank set up in

1988 as a subsidiary of Reserve Bank of India, is functioning under the administrative control of the Banking Division of Department of Economic Affairs. It is supervising and controlling various Housing Finance Institutions (HFIs). So far it has recognised 29 HFIs; (c) Allocation by Life Insurance Corporation/General Insurance Corporation for direct and indirect finance for housing has been increased; (d) During 1999-2000, HUDCO sanctioned loans of Rs 8,899.89 crore for Housing and Urban infrastructure schemes. Loan released during the same period was Rs 4,412.40 crore. During 1999-2000, 745 schemes sanctioned with loan assistance of Rs 11,778.81 crore would enable construction and upgradation of 14.54 lakh residential units and development of 22,117 residential plots. More than 98 per cent of the total residential units sanctioned during the year were meant for EWS/LIG (14.33 lakh units). On 8 March 1999, HUDCO launched the individual retail-financing scheme HUDCO Niwas and sanctioned Rs 1,259.97 crore for 1,82,370 dwelling units all over the country. An amount of Rs 809.02 crore has been released during the year under this scheme; and (e) As an Action Plan item, Night Shelter Scheme for Footpath Dwellers is being implemented as a Centrally-sponsored scheme in the metropolitan and other major urban centres. Since April 1991, 101 schemes benefitting over four lakh footpath-dwellers have been sanctioned by HUDCO in various parts of the country.

BUILDING MATERIALS AND TECHNOLOGY INPUTS IN HOUSING SECTOR

Technology application is a crucial input in housing. Building materials account for 65 to 75 per cent of the total cost of construction. The demand for building materials has been continuously rising with the increasing need for housing both in rural and urban areas. Inadequate technology extension facilities, lack of coordination and promotion programmes at the Central and State government levels to support production ventures are some of the issues receiving Government attention. In the rural areas the problem is worse due to decreasing access to traditional materials such as timber, bamboo, thatch which mostly form part of biomass. Commercial exploitation by various industries has aggravated the situation.

In this regard, the following initiatives have been taken: (a) As part of the Ninth Plan exercise, the demand and likely shortage of some of the major building materials have been estimated along with the potential for production of alternative building materials; (b) The Building Materials and Technology Promotion Council (BMTPC) has been functioning as a registered society under the aegis of the Ministry of Urban Development and Poverty Alleviation to provide for an appropriate platform for technology identification, validation, transfer, application in the shelter sector and promoting large-scale commercial production of innovative building materials. The Council has taken a lot of initiatives in utilisation of fly-ash and other wastes, introduction of new specifications by CPWD and Bureau of Indian Standards (BIS) and to increase the entrepreneurs' interface with the financial institutions and research agencies. A number of flyash-based building materials production units in

various parts of the country are being set up; (c) Some of the technologies and new materials and components already tested and manufactured on a pilot scale have been identified for large-scale extension; (d) A network of Building Centres has been set up as a Centrally-sponsored scheme through HUDCO to train artisans and others for transfer of appropriate technology to rural and urban areas. As on 31 March 2000, administrative approval has been given for 582 Building Centres out of which 410 have become functional; and (e) Non-governmental organisations are increasingly being supported to supplement governmental efforts.

NRI INVESTMENT IN HOUSING

In the ongoing process of economic reforms and liberalization of trades and industrial policy of the Government, the housing and real estate sectors have emerged as a key area with immense investment potential. In order to pass on the benefits of the liberalization process to Non-Resident Indians (NRIs)/ People of Indian Origin (PIO)/Overseas Corporate Bodies (OCBs) and to promote inflow of foreign exchange and augment resources for the housing sector, the Government announced a scheme for NRI investment in housing and real estate development. The scheme covers investment by non-residents of Indian nationality/origin and OCBs predominantly owned by NRIs/PIO in the following areas: (i) development of serviced plots and construction of built-up residential premises; (ii) real estate covering construction of residential and commercial premises including business centres and offices; (iii) development of townships; (iv) city and region-level urban infrastructure facilities including roads and bridges; (v) manufacturing of building materials; and (vi) financing of housing development.

NATIONAL BUILDING ORGANISATION

The National Building Organisation (NBO) was established in 1954 as an attached office of the then Ministry of Works and Housing primarily to take up research in low-cost building designs, improvement of the building and housing conditions alongwith the socio-economic aspects. NBO also functions as the regional centre for housing for Economic and Social Council for Asia-Pacific (ESCAP). The NBO was restructured in 1992 to take up mainly the socio-economic management information system and creation of data bank. The functions related to building materials and designs have been taken out of the purview of the NBO and given to BMTPC, an autonomous body within the Ministry.

HOUSING FOR CENTRAL GOVERNMENT EMPLOYEES

The Central Government Employees' Welfare Housing Organisation (CGEWHO) is a registered society under the aegis of the Ministry of Urban Development and Poverty Alleviation. Of the housing schemes announced in Nerul and Kharghar in new Mumbai, Chennai, Calcutta, NOIDA (UP) (Phase I&II), Panchkula Gurgaon (Phase-I&II), Chandigarh, Bangalore, Kochi and Ahmadabad; Chennai, Nerul (Navi Mumbai), Panchkula, NOIDA (Phase-I&II)

and Calcutta projects have been completed. These schemes have provided 2,782 dwelling units. Projects at Gurgaon (Phase-I, 1,088 units), Kharghar (1,230 units) and Chandigarh (305 units) are nearing completion. Projects at Bangalore (603 units), Kochi (360 units) and Gurgaon Phase-II (852 units) are in different stages. The organisation has got allotment of land in Lucknow, Meerut, Pune, and Greater NOIDA; and is procuring land at Hyderabad and Vishakhapatnam. The schemes will provide 7,220 dwelling units.

URBAN LAND (CEILING AND REGULATION) REPEAL ACT, 1999

The Urban Land (Ceiling and Regulation) Repeal Act, 1999 was notified in the Gazette on 22 March 1999 in replacement of an Ordinance on the same subject. The Repeal Act has already come into force in Haryana, Punjab, Uttar Pradesh, Gujarat, Karnataka, Madhya Pradesh and all the Union Territories. The Governments of Andhra Pradesh, Assam, Bihar, Maharashtra, Orissa, Rajasthan and West Bengal have not adopted the Repeal Act. Guidelines have also been issued to all the State Governments and UTs. The Repeal Act will facilitate construction of dwelling units both in the public and private sector.

ACCELERATED URBAN WATER SUPPLY PROGRAMME

The Centrally-sponsored Accelerated Urban Water Supply Programme (AUWSP) was launched during 1993-94: (i) to provide safe and adequate water supply facilities to the towns having population less than 20,000 (as per 1991 census) within a fixed time frame; (ii) to improve the environment and the quality of life; and (iii) for better socio-economic condition and more productivity to sustain the economy of the country.

As per 1991 census 2,151 small towns with a population of 2.34 crore are eligible for assistance under the programme. Rs 65 crore were released during 1999-2000. An amount of Rs 201.57 crore was released till May 2000. The allocation for 2000-2001 is Rs 87.9 crore.

SCHEME FOR ERADICATION OF SCAVENGING

The scheme seeks to completely eliminate the practice of manual scavenging during the Ninth Five Year Plan by conversion of dry latrines into low-cost water seal pour flush latrines and construction of new sanitary units. The scheme is being operated through the HUDCO by subsidy from the Central Government and loans from HUDCO to the States and Union Territories.

Up till 25 May 2000, 825 schemes costing Rs 1,339.98 crore covering 1,322 towns were sanctioned for conversion/construction of 37,64,399 dry latrines/pour flush toilets and liberation of 1.22 lakh manual scavengers. An amount of Rs 467.90 crore has been sanctioned as subsidy and Rs 610.73 crore as loan from HUDCO for the schemes. Out of this, Rs 246.93 crore as subsidy and Rs 277.62 crore as loan have been released by the HUDCO. So far 9,31,971 low cost units have been completed and 3,73,874 are in progress.

GANGA BARRAGE PROJECT

The Government of India approved the Ganga Barrage Project at Kanpur on

10 April 1999 at a cost of Rs 263.40 crore. Half of this amount would be given as loan to the Government of Uttar Pradesh. The Ministry has provided Rs 59.99 crore during 2000-2001 and Rs 10 crore was released on 26 April 2000.

HINDUSTAN PREFAB LIMITED

Hindustan Prefab Limited, a Government of India Company under the administrative control of the Ministry of Urban Development since 1955, is both a production unit and a contracting company for execution of civil works. The company is managed by a Board of Directors and has 674 regular employees on its rolls as on 31 March 2000. The company's authorised and paid-up capital stands at Rs 10 crore and Rs 6.97 crore respectively.

INTEGRATED DEVELOPMENT OF SMALL AND MEDIUM TOWNS

The Scheme of Integrated Development of Small and Medium Towns (IDSMT) aims at the development of selected regional growth centres with infrastructure and service facilities. The objective is to enable them to emerge as centres of economic growth and employment opportunities and arrest migration from rural areas and small towns to large and metropolitan cities. Keeping in view the need to strengthen infrastructure in urban areas, certain modifications to the guidelines of the IDSMT Scheme were made on 18 July 1995. Important among these changes are : (a) extending the coverage of IDSMT Scheme to towns with a population of up to five lakh; (b) new financing pattern; (c) enabling the selected cities and towns to take up projects; (d) strategy paper, city/town investment plans and IDSMT project reports to implement such plans; (e) a package of municipal reforms in line with the Constitution's 74th Amendment Act including creation of revolving fund at the municipal level to promote development of infrastructure on a continuing basis. Seventy-five per cent of the grants released under the Scheme should flow back from projects to the revolving fund; (f) sanctioning of IDSMT projects to be done by a Committee at the State level; and (g) grants-in-aid to State governments/Municipalities on 60 (Central) : 40 (state) basis for preparation of town development (investment) plans and project reports to implement the Scheme.

The Plan allocation for the Scheme is Rs 60 crore for 2000-2001.

MEGA CITY SCHEME

The Centrally-sponsored scheme of Infrastructure Development in Mega Cities in operation from 1993-94 applies to the five Mega Cities of Mumbai, Chennai, Calcutta, Hyderabad and Bangalore. The sharing between Central and State governments is in the ratio of 25:25 and the balance 50 per cent is to be mobilised as institutional finance. The projects included under the Scheme are of three categories: (a) Remunerative projects; (b) User-charge based projects and (c) Basic services projects. The primary objective is to enable the mega cities build a Revolving Fund by the end of the Ninth Plan for sustained investment in urban infrastructure through adoption of direct and indirect cost recovery measures. Till now Central share amounting to Rs 513.85 has been released to the nodal agencies.

URBAN MAPPING

The Urban Mapping Scheme was taken up as a pilot project during the Eighth Five Year Plan for covering 50 towns from different states. In the first phase, 25 towns from six states were selected for coverage. The Executive Agency for the project, the National Remote Sensing Agency (NRSA) has completed aerial photography for all the towns and they have furnished photographs and aerial maps for all the towns except three towns. Town and Country Planning Organisation in collaboration with the concerned State Town Planning Departments is undertaking interpretation of aerial photographs and collection of other secondary data/information to generate thematic maps and graphic data base for the development of GIS and processing of information for use of Town Planning Departments, Local Bodies, Development Authorities, PWD, Tax Authorities and other Sectoral Development Agencies, as multi-purpose maps.

As envisaged in the Plan document, the second phase of the Urban Mapping Scheme involving 25 more towns was approved to be covered in the Ninth Five Year Plan period. For the second phase, 13 towns have been proposed by NRSA and various survey works have been/being completed. For the remaining towns action is being taken to undertake the aerial photography.

CENTRAL PUBLIC WORKS DEPARTMENT

The Central Public Works Department (CPWD), is the principal agency of the Government of India for construction and maintenance of all Central government buildings and projects excepting those belonging to railways, defence, communication, atomic energy, airports (national and international) and All India Radio. The existence of the CPWD could be traced back to the year 1863 when the Ajmer Provincial Division was created. However, the CPWD was formally created in its present form in 1930 with its headquarters located at New Delhi. The Department is headed by Director General (Works). The Department has six regional centres known as New Delhi Region, Delhi Region, Northern Region (all with headquarters at Delhi), Eastern Region, Southern Region and Western Region (with headquarters at Calcutta, Chennai and Mumbai respectively).

The CPWD handles a wide range of projects like housing and office complexes. It is also executing border fencing, flood lighting and road projects in difficult terrain and under hostile conditions along the Indo-Pak and Indo-Bangladesh borders. CPWD has its field units all over India to take up construction and maintenance works even in the remotest parts of the country. It also undertakes the work of public sector undertakings and autonomous bodies as deposit works. CPWD has also executed many overseas works such as construction of embassies and hospital buildings in various countries and roads and bridges in Nepal.

The CPWD has to its credit construction of prestigious buildings like

Rashtrapati Bhawan, North Block, South Block, Parliament House, Vigyan Bhawan and many multi-storeyed structures, stadia. The prestigious Parliament Library Building costing approximately Rs 191.19 crore is under construction near the existing Parliament House.

The department is moving forward in the field of construction by developing innovative new techniques and adopting state-of-the-art technologies. The Technology Application and Development Cell (TAD Cell) has been established to identify and select environment friendly construction materials and technologies in close liaison and coordination with research organisations. The CPWD is playing a major role in sustainable development of human settlement. It has also developed expertise in rehabilitation of structures.

The CPWD has well-documented specifications and standards, and schedules of rates which are updated from time to time, to keep pace with latest technologies and market trends with a definite quality assurance plan. These specifications and schedules of rates are being followed by various construction organisations in public as well as in private sectors.

CONSTRUCTION AGENCIES

NATIONAL BUILDINGS CONSTRUCTION CORPORATION LIMITED

The National Buildings Construction Corporation Limited (NBCC) was incorporated as a public sector undertaking in November 1960. The paid-up equity share capital of NBCC as on 31 March 2000 is Rs 111.65 crore against the authorised capital of Rs 120 crore. The Company's activities are spread all around the country and abroad. During 1999-2000 NBCC earned a profit of Rs 13.60 crore and has orders in hand worth Rs 650 crore as on 31 March 2000.

NBCC has been working on areas such as: Environmental Engineering Plants using 'UASB' Technology, Tall Stacks & Cooling Towers using Slip-Form and Jump Form Technologies, development of Real Estate Projects, Project Management and Maintenance Contracts. NBCC has been awarded two prestigious contracts one of Rs 80 crore for Designing and Construction of Two Natural Draught Cooling Towers for Simhadri Super Thermal Power Plant (AP), and another of Rs 87 crore for 270 cusec water supply augmentation scheme from Upper Ganga Canal near Murad Nagar to Sonia Vihar, Delhi. A large number of projects are under execution for MTNL, DBV, DDA, NDMC, etc., using Trenchless Construction Technology in India.

NATIONAL CAPITAL REGION PLANNING BOARD

The National Capital Region Planning Board (NCRPB) was constituted under the NCR Planning Board Act, 1985 enacted by the Parliament with the concurrence of the legislatures of the states of Haryana, Rajasthan and Uttar Pradesh. It has the mandate for preparing a plan for the development of

the National Capital Region (NCR). The NCR with an area of 30,242 sq km covers the whole of NCT Delhi and parts of Haryana, Rajasthan and Uttar Pradesh. The Board has prepared Regional Plan - 2001 for NCR and is coordinating the enforcement and implementation of the Regional Plan, Functional Plans and Sub-Regional Plans. Uttar Pradesh and Rajasthan have prepared the sub-regional plans for their sub-regions which have been approved by the Board. Similar sub-regional plans in respect of Haryana and Delhi are being finalised. The Board has also prepared Functional Plans for transport, power, telecom and industry sectors. The present Regional Plan has been reviewed and a report has been approved by the Board based on which, the Board has initiated the process of preparing a Regional Plan for the perspective year 2021. During 1996-97, the Board had obtained credit of Rs 60 crore from HUDCO. In 1997-98 and 1998-99, the board raised an amount of Rs 226.40 crore and Rs 285 crore respectively from the capital market.

For the development of the region, the Board has approved 138 projects costing Rs 3,814.53 crore. Of these 57 projects have been completed. The Board has sanctioned a loan amount of Rs 1,526.67 crore, out of which Rs 890.52 crore were released up to 31 March 2000 to Haryana, Rajasthan and Uttar Pradesh and four Counter Magnet Areas including Gwalior, Patiala, Kota and Bareilly. So far the Board has assisted the States in creating about 114,000 residential plots/flats, 17,000 commercial plots/shops and about 10,000 industrial plots/sheds along with associated infrastructure facilities.

NATIONAL SLUM DEVELOPMENT PROGRAMME

The National Slum Development Programme (NSDP) was launched in August 1996 at Kanpur. Under the programme, additional Central assistance is released to States/UTs for the development of urban slums. The objective of the programme is to provide adequate and satisfactory water supply, sanitation, health care, primary education facilities, adult literacy and non-formal education facilities, etc. The focus is on community infrastructure, provision of shelter, empowerment of urban poor women, training, skill upgradation and involvement of NGOs, CBOs and other bodies. The funds are allocated to States/UTs annually. Since inception of the scheme, Rs 1,286.45 crore were released by the Central Government of which an amount of Rs 483.58 crore was utilised up to 1999-2000 benefitting about 2.90 crore people.

SWARNA JAYANTI SHAHARI ROZGAR YOJANA

All the three Urban Poverty Alleviation Schemes, namely Urban Basic Services for the Poor (UBSP), Nehru Rozgar Yojana (NRY), and Prime Minister's Integrated Urban Poverty Eradication Programme (PMIUPEP) stand subsumed in a new scheme, Swarna Jayanti Shahari Rozgar Yojana (SJSRY), with effect from 1 December 1997. The SJSRY seeks to provide gainful employment to the urban unemployed or under-employed through encouraging the setting up of self-employment ventures or provision of wage employment. This

programme relies on creation of suitable community structures on the UHP pattern and delivery of inputs is through the medium of urban local bodies and such community structure. The scheme is funded on a 75:25 basis between the Centre and the States. The scheme consists of two special schemes: (a) The Urban Self Employment Programme (USEP) and (b) The Urban Wage Employment Programme (UWEP). During 1999-2000 Rs 50.23 crore were released under USEP, Rs 51.57 crore under UWEP and Rs 16.92 crore under Community Structure Component to all the States/UTs under S(R).

URBAN SELF EMPLOYMENT PROGRAMME

This programme has three distinct components: (i) Assistance to individual urban poor beneficiaries for setting up gainful self employment ventures; (ii) Assistance to groups of urban poor women for setting up gainful self employment ventures. This sub-scheme is called 'The Scheme for Development of Women and Children in the Urban Areas (DWCUA)' and (iii) Training of beneficiaries, potential beneficiaries and other persons associated with the urban employment programme for upgradation and acquisition of vocational and entrepreneurial skills. The programme is applicable to all urban towns in India and implemented on a whole town basis with special emphasis on urban poor clusters. The programme targets the urban poor defined as those living below the urban poverty line. The percentage of women beneficiaries under this programme shall not be less than 30 per cent. The SCs and STs must be benefited in proportion to their strength in local population. A provision of 3 per cent shall be reserved for the disabled under this programme. There is no minimum educational qualification for beneficiaries under this programme. However, this scheme is not applied to beneficiaries educated beyond the 10th standard. Women beneficiaries belonging to women headed household viz. widows, divorcees, single women of household where women are the sole earners are ranked higher in priority. The number of persons trained and beneficiaries assisted up to 31 March 2000 was 1,52,133 and 1,78,717 respectively.

DEVELOPMENT OF WOMEN AND CHILDREN IN URBAN AREAS

Development of Women and Children in Urban Areas (DWCUA) aims at helping groups of urban poor women in taking up self employment ventures. The group may consist of at least 10 women. The ceiling of subsidy under the scheme is Rs 1.25 lakh or 50 per cent of the cost of project whichever is less. Where the group sets itself up as Thrift and Credit Society in addition to its self employment ventures, it will be eligible for additional grant of Rs 25,000 as revolving fund at the rate of Rs 1,000 maximum per member. The fund is meant for purposes like purchase of raw materials and marketing, infrastructural support, one time expense on child care activity, expenses up to Rs 500 on travel cost of group members to bank, payment of insurance premium for self, spouse, child by maintaining savings for different periods by a member and any other expense allowed by the State in the group's interest. The revolving fund can be availed of by a group only after one year.

of its formation. Up to 31 March 2000, 6,434 DWCUA groups were formed benefitting 9,493 women.

URBAN WAGE EMPLOYMENT PROGRAMME

This programme seeks to provide wage employment to beneficiaries living below the poverty-line within the jurisdiction of urban local bodies by utilising their labour for construction of socially and economically useful public assets. The programme applies to urban local bodies, having population less than five lakh as per the 1991 Census. The material labour ratio for works under this programme shall be maintained at 60:40. The prevailing minimum wage rate, as notified from time to time for each area, has to be paid to the beneficiaries under this programme. The programme has to be dovetailed with the state sector Environmental Improvement of Urban Slums (EIUS) scheme as well as the National Slum Development Programme (NSDP). This programme is not designed to replace or substitute the EIUS, the NSDP or any other state sector schemes. The number of mandays of work generated up to 31 March 2000 was 172.38 lakh.

26 Justice and Law

THE Constitution of the Republics of India guarantees, besides other rights, protection of life and personal liberty and provides adequate safeguards against the arbitrary deprivation thereof by the State.

Adoption of a Republican Constitution by India in 1950 did not disturb continuity of existing laws and unified structure of courts. Unity and uniformity of the judicial structure were preserved by placing such areas of law as criminal law and procedure, civil procedure, will, succession, contract including special form of contract, but not including contract relating to agricultural land, registration of deeds and documents, evidence, etc., in Concurrent List.

SOURCES OF LAW

The main sources of law in India are the Constitution, statutes (legislation), customary law and case law. Statutes are enacted by Parliament, State legislatures and Union Territory legislatures. Besides, there is a vast body of laws known as subordinate legislation in the form of rules, regulations as well as bye-laws made by Central/State governments and local authorities like municipal corporations, municipalities, *gram panchayats* and other local bodies. This subordinate legislation is made under the authority conferred or delegated either by Parliament or State or Union Territory legislatures concerned. Judicial decisions of superior courts like Supreme Court and High Courts are important sources of law. Decisions of Supreme Court are binding on all courts within the territory of India. Local customs and conventions which are not against statute, morality, etc., are also recognised and taken into account by courts while administering justice in certain spheres.

ENACTMENT OF LAWS

Parliament is competent to make laws on matters enumerated in the Union List. State legislatures are competent to make laws on matters enumerated in the State List. Parliament alone has power to make laws on matters not included in the State or Concurrent List. On matters enumerated in Concurrent List, laws can be made by both Parliament and legislatures. But in event of repugnancy, law made by Parliament shall prevail and law made by State legislature, to the extent of repugnancy, be void unless the latter law having been reserved for consideration of President, has received his assent, and in that event it shall prevail in that state.

JUDICIARY

At the apex of the entire judicial system exists Supreme Court of India with a High Court of each state or group of states, and under High Courts, there is a hierarchy of subordinate courts. *Panchayat* courts also function in some

states under various names like *Nyaya Panchayat*, *Panchayat Adalat*, *Gram Kachheri*, etc., to decide civil and criminal disputes of petty and local nature. Different state laws provide for jurisdiction of these courts.

Each state is divided into judicial districts presided over by a district and sessions judge, who is the principal civil court of original jurisdiction and can try all offences including those punishable with death. He is the highest judicial authority in a district. Below him, there are courts of civil jurisdiction, known in different states as *munsifs*, sub-judges, civil judges and the like. Similarly, criminal judiciary comprises chief judicial magistrate and judicial magistrates of first and second class.

SUPREME COURT

The Supreme Court of India consists of 26 judges (including the Chief Justice of India). The judges hold office until they attain the age of 65 years. The Supreme Court of India has original jurisdiction in any dispute arising . (a) between the Government of India and one or more states; or (b) between the Government of India and any state or states on the one side and one or more states on the other; or (c) between two or more states.

An appeal shall lie to the Supreme Court from any judgement, decree or final order of a High Court in the territory of India, whether in a civil, criminal or other proceeding.

As on 1 July 2000, the Members of the Court are : Chief Justice, A. S. Anand, Judges : S. P. Bharucha, S. B. Majumdar, B. N. Kirpal, G. B. Pattanaik, K. T. Thomas, M. Jagannadha Rao, V. N. Khare, S. Rajendra Babu, A. P. Misra, S. S. Mohammed Quadri, M. B. Shah, D. P. Mohapatra, U. C. Banerjee, R. C. Lahoti, N. Santosh Hegde, R. P. Sethi, S. N. Phukan, Doraiswamy Raju, Y. K. Sabharwal, Smt. Ruma Pal, S. N. Variava, S. V. Patil and K. G. Balakrishnan.

HIGH COURTS

High Court stands at the head of the state's judicial administration. There are 18 High Courts in the country, three having jurisdiction over more than one state. Among the Union Territories, Delhi alone has a High Court of its own. Other six union Territories come under jurisdiction of different state High Courts. Each High Court comprises a Chief Justice and such other Judges as the President may, from time to time, appoint. The Chief Justice of High Court is appointed by the President in consultation with the Chief Justice of India and the Governor of the state. The procedure for appointing of the High Courts judges is the same except that the Chief Justice of the High Court concerned is also consulted. They hold office up to 62 years of age. To be eligible for appointment as a judge, one must be a citizen of India and should have held a judicial office in India for 10 years or must have practised as an advocate of a High Court or two or more such courts in succession for a similar period.

Each High Court has the power to issue any person or authority and government within its jurisdiction, direction, orders or writs including writs

which are in the nature of *habeas corpus*, *mandamus*, prohibition, *quo warranto* and *certiorari* for enforcement of Fundamental Rights and for any other purpose. This power may also be exercised by any High Court exercising jurisdiction in relation to territories within which the cause of action, wholly or in part, arises for exercise of such power, even if the seat of such Government or authority or residence of such person is not within those territories. The total sanctioned strength of judges and additional judges in different High Court is 591 against which 454 were in position as on 1 May 2000. Table 26.1 gives the seat and territorial jurisdiction of the High Courts.

TABLE 26.1 : JURISDICTION AND SEAT OF HIGH COURTS

Name	Year	Territorial Jurisdiction	Seat
Allahabad	1866	Uttar Pradesh	Allahabad (Bench at Lucknow)
Andhra Pradesh	1954	Andhra Pradesh	Hyderabad
Bombay	1862	Maharashtra, Goa, Dadra and Nagar Haveli and Daman and Diu	Mumbai (Benches at Nagpur, Panaji and Aurangabad)
Calcutta	1862	West Bengal	Calcutta (Circuit Bench at Port Blair)
Delhi	1966	Delhi	Delhi
Guwahati	1948 ¹	Assam, Manipur, Meghalaya, Nagaland, Tripura, Mizoram and Arunachal Pradesh	Guwahati (Benches at Kohima, Aizawl, Imphal, Shillong and Agartala)
Gujarat	1960	Gujarat	Ahmedabad
Himachal Pradesh	1971	Himachal Pradesh	Shimla
Jammu & Kashmir	1928	Jammu & Kashmir	Srinagar and Jammu
Karnataka	1884 ²	Karnataka	Bangalore
Kerala	1958	Kerala and Lakshadweep	Ernakulam
Madhya Pradesh	1956	Madhya Pradesh	Jabalpur (Benches at Gwalior and Indore)
Madras	1862	Tamil Nadu and Pondicherry	Chennai
Orissa	1948	Orissa	Cuttack
Patna	1916	Bihar	Patna (Bench at Ranchi)
Punjab and Haryana	1966 ³	Punjab, Haryana and Chandigarh	Chandigarh
Rajasthan	1949	Rajasthan	Jodhpur (Bench at Jaipur)
Sikkim	1975	Sikkim	Gangtok

- ¹ Originally known as Assam High Court, renamed as Guwahati High court in 1971.
- ² Originally known as Mysore High Court, renamed as Karnataka High Court in 1973.
- ³ Originally known as Punjab High Court, renamed as Punjab and Haryana High Court in 1966.

Each High Court has powers of superintendence over all courts within its jurisdiction. It can call for returns from such courts, make and issue general rules and prescribed forms to regulate their practices and proceedings and determine the manner and form in which book entries and accounts shall be kept.

SUBORDINATE COURTS

The structure and functions of subordinate courts are more or less uniform throughout the country. Designations of courts connote their functions. These courts deal with all disputes of civil or criminal nature as per the powers conferred on them. These courts have been derived principally from two important codes prescribing procedures, i.e., the Code of Civil Procedure, 1908 and the Code of Criminal Procedure, 1973 and further strengthened by local statutes. As per direction of Supreme Court in WP (Civil 1022/1989 in the All India Judges Association case, a uniform designation has been brought about in the subordinate judiciary's judicial officers all over the country viz., District or Additional District Judge, Civil Judge (Senior Division) and Civil Judge (Junior Division) on the civil side and on criminal side, Sessions Judge, Additional Sessions Judge, Chief Judicial Magistrate and Judicial magistrate, etc., as laid down in the Cr. P. C. Appropriate adjustment, if any, has been made of existing posts by indicating their equivalent with any of these categories by all State Governments/UT Administrations.

Under Article 235 of the Constitution of India, the administrative control over the members of subordinate judicial service vests with the concerned High Court. Further in exercise of powers conferred under proviso to Article 309 read with Article 233 and 234 of the Constitution, the State Government shall frame rules and regulations in consultation with the High Court exercising jurisdiction in relation to such State. The members of the State Judicial Services are governed by these rules and regulations.

FIRST NATIONAL JUDICIAL PAY COMMISSION

In March 1996 the Central Government had set up the First National Judicial Pay Commission to evolve the principles governing the structure of pay and other emoluments of Judicial Officers belonging to the Subordinate Judiciary all over the country and also the conditions of service of Judicial Officers in the States/UTs. The Commission submitted its report in November 1999. The major recommendations of the commission *inter-alia* relate to amalgamation of cadres in judicial services into three uniform cadres, cadre-wise pay scales, allowances and various amenities, sharing of expenditure on construction of Subordinate Courts and quarters for Judicial Officers by the Centre, increase in the retirement age, etc. Subordinate Judiciary is primarily the concern of

the State Governments/High Courts. The recommendations of the Commission have been sent to the State Governments/High Courts. The recommendations relating to the UTs are under consideration of the Central Government.

FAMILY COURTS

The Family Courts Act, 1984 aims at promoting conciliation in and securing speedy settlement of disputes relating to marriage and family affairs and related matters. It envisages that courts shall be set up in a city or town with a population of more than 10 lakh and at such other places as the state government may deem necessary. At present there are 79 Family Courts in the country (Andhra Pradesh-seven, Assam-one, Bihar-two, Gujarat-four, Karnataka-eight, Kerala-seven, Maharashtra-sixteen, Manipur-one, Orissa-two, Pondicherry-one, Rajasthan-six, Sikkim-one, Tamil Nadu-six, Uttar Pradesh-sixteen and West Bengal-one). The NCT of Delhi has also been requested to take steps for setting up 15 Family Courts. The Government of Punjab has decided to establish two Family Courts. Besides, necessary notifications extending the jurisdiction of the Family Courts Act have also been issued by the Government of India in respect of Haryana, Madhya Pradesh and the Union Territory of Andaman and Nicobar Islands.

NATIONAL JUDICIAL ACADEMY

The National Judicial Academy has been set up by the Government of India to provide in-service training to judicial officers. The Academy was registered on 17 August 1993 under the Societies Registration Act, 1860. The Academy located in Bhopal has its registered office in New Delhi. The construction of the Academy building at Bhopal is expected to be completed by December 2001. It will provide training to judicial officers of States/UTs as well as ministerial officers working in the Supreme Court of India and the High Courts.

LEGAL AID

Article 39A of the Constitution provides for free legal aid to the poor and the weaker sections of the society. The Legal Services Authorities Act, 1987 as amended by the Act of 1994, which came into force on 9 November 1995, aims at establishing a nation-wide network for providing free and competent legal services to the weaker sections. National Legal Services Authority (NALSA) has been set up for implementing and monitoring legal aid programmes in the country. The Supreme Court Legal Services Committee has been constituted under the Act. In every High Court also, the High Court Legal Services Committees are being established to provide free legal aid to the eligible persons in legal matters coming before the High Courts. The Act also provides for Constitution of the State Legal Services Authorities, High Court Legal Services Committees, District Legal Services Authorities and Taluk Legal Services Committees.

The Central Authority constituted under Section 3 of the said Act is

taking steps to establish vibrant legal aid programmes such as promotion of legal literacy, setting up of legal aid clinics in universities and law colleges, training of para-legals, and holding of legal aid camps and *Lok Adalats*. The NALSA is also formulating policies and schemes to achieve the aims and objects of the Act.

Under the Legal Services Authorities Act, every citizen whose annual income does not exceed Rs 9,000 is eligible for free legal aid in cases coming before subordinate courts and high courts. In cases before the Supreme Court, the limit is Rs 12,000. This limit can be increased by the State Governments. Limitation as to the income does not apply in the case of persons belonging to the scheduled castes, scheduled tribes, women, children, handicapped, etc. At the first annual meet of the State Legal Services Authorities held under the aegis of the NALSA on 12 September 1998 at New Delhi, it was unanimously resolved that for cases before High Courts, the minimum income ceiling in every State should be raised to Rs 25,000 per annum and for the cases before the Supreme Court of India, it should be raised to Rs 50,000 per annum. Accordingly, the Central Government has enhanced the annual income ceiling from Rs 18,000 to Rs 50,000. Likewise, a few States viz., Gujarat, Himachal Pradesh, Orissa, Sikkim and UT of Chandigarh, have enhanced the ceiling from Rs 12,000 to Rs 25,000 for cases before their respective High Courts. The matter of revision of the ceiling, is under process in most of the other States.

The Government has sanctioned Rs 6 crore as grant-in-aid for NALSA for 2000-2001 for allocating funds to the State, District authorities, etc. The NALSA is also monitoring and evaluating the implementation of the legal aid programmes in the country and is taking appropriate measures for spreading legal literacy and legal awareness amongst the weaker sections of the society. Up to 31 December 1999, about 49,415 *Lok Adalats* have been held in different parts of the country where about 97.20 lakh cases were settled. In about 5,09,171 Motor Vehicles Accident Claims cases, compensation amounting to over Rs 2,306 crore was awarded.

Under the Legal Services Authorities Act, *Lok Adalat* has been given the status of Civil Court and every award made by *Lok Adalat* is final and binding on all parties and no appeal lies before any court against its award. Pursuant to the decision taken at the First Annual Meet of the State Legal Services Authorities, permanent and continuous *Lok Adalats* are being set up in every district throughout the country. Efforts are on for establishment of separate *Lok Adalat* for different departments of the State Governments and public sector undertakings for settling cases pertaining to such government/public sector undertakings in their office premises itself.

Pursuant to the directions of the Delhi High Court, separate permanent and continuous *Lok Adalats* were set up in DVB, MTNL, DDA, MCD, NDMC, GIC and in Tis Hazari, Patiala House and Karkardooma Courts where 2,145 cases have been settled. A scheme for the constitution of permanent and

continuous Lok Adalat for the Ministries/Departments of Government of India has been implemented in terms of the orders of Delhi High Court.

ATTORNEY-GENERAL

The Attorney General for India is appointed by the President and holds office during the pleasure of the President. He must be a person qualified to be appointed as a Judge of the Supreme Court. It is the duty of the Attorney-General of India to give advice to the Government of India upon such legal matters, and to perform such other duties of a legal character, as may be referred or assigned to him by the President, and to discharge the functions conferred on him by or under the Constitution or any other law. In the performance of his duties, he has the right of audience in all courts in India as well as the right to take part in the proceedings of Parliament, without the right to vote. In the discharge of his functions, the Attorney-General is assisted by Solicitor-General and Additional Solicitors-General.

LEGAL PROFESSION

In India, the law relating to legal profession is governed by the Advocates Act, 1961 and the rules framed thereunder by the Bar Council of India. It is a self-contained code of law relating to legal practitioners and provides for the constitution of State Bar Councils and Bar Council of India. A person enrolled as an advocate under the Advocates Act, 1961, is entitled to practise law throughout the country. An advocate on the roll of a State Bar Council may apply for transfer to the roll of any other State Bar Council in the prescribed manner. No person can be enrolled as an advocate on the roll of more than one State Bar Council.

There are two classes of advocates, namely, senior advocates and other advocates. An advocate with his consent, may be designated as a senior advocate, if the Supreme Court or a High Court is of the opinion that by virtue of his ability, standing at the Bar or special knowledge or experience in law, he deserves such distinction. A senior advocate cannot appear without an advocate-on-record in the Supreme Court or without some other advocate in the state roll in any other court or tribunal. Standards of education have been prescribed for enrolment as an advocate. There are also rules regulating standards of professional conduct and etiquette and other matters. State Bar Councils have disciplinary jurisdiction over advocates whose names appear on their rolls. This is subject to right of appeal to the Bar Council of India and a further right of appeal to the Supreme Court of India.

LAW COMMISSION OF INDIA

The 15th Law Commission was reconstituted on 1 September 1997 for a period of three years with Hon'ble Justice B. P. Jeevan Reddy as Chairman and Mrs Justice Leila Seth and Dr N.M. Ghatate as Members, Dr N. R. Madhava Menon, Shri B.R. Atre and Prof R.C. Hingorani, as part-time members and Shri T.K. Viswanathan as Member-Secretary. The terms of reference of the Law Commission are: (i) Review/Repeal of obsolete laws : (a) to identify laws

which are in harmony with the existing climate of economic liberalization which need no change; (b) to identify laws which require changes or amendments and to make suggestions for their amendment; (c) to consider in a wider perspective the suggestions for revision/amendment given by expert groups in various ministries/departments with a view to coordinating and harmonising them; (d) to consider references made to it by ministries/departments in respect of legislation having bearing on the working of more than one ministry/department; (e) to suggest suitable measures for quick redressal of citizens' grievances in the field of law; (ii) Law and Poverty: (a) to examine the laws which affect the poor and carry out post-audit for socio-economic legislation; (b) to take all such measures as may be necessary to harness law and the legal process in the service of the poor; (iii) to keep under review the system of judicial administration to ensure that it is responsive to the reasonable demands of the times and in particular to secure : (a) elimination of delays, speedy clearance of arrears and reduction of costs so as to secure quick and economical disposal of cases without affecting the cardinal principal that decisions should be just and fair; (b) simplification of procedure to reduce and eliminate technicalities and devices for delay so that it operates not as an end in itself but as a means of achieving justice; (c) improvement of standards of all concerned with the administration of justice; (iv) to examine the existing laws in the light of Directive Principles of State Policy and to suggest ways of improvement and reform and also to suggest such legislation as might be necessary to implement the Directive Principles and to attain the objectives set out in the Preamble to the Constitution; (v) to revise the Central Acts of general importance so as to simplify them and to remove anomalies, ambiguities and inequities; (vi) to recommend to the Government measures for bringing the statute book up-to-date by repealing obsolete laws and enactments or parts thereof which have out lived their utility; and (vii) to consider and to convey to the Government its views on any other subject relating to law and judicial administration that may be referred to it.

Various subjects were taken up by the Commission *suo motu* in view of the importance of the issues while some subjects were taken up on a reference from the Government of India. The law Commission has given 174 reports on several issues of importance since its inception. Working papers/questionnaires were issued on "Legislation to combat terrorism" and 'Review of Advocates Act, 1861' by the Law Commission with a view to eliciting the views/suggestions on the subject from the public as well as other concerned agencies.

The Commission has so far submitted 174 reports. The last four reports were on (a) the Biodiversity Bill, 2000; (b) Review of Rape laws; (c) Prevention of Terrorism Bill, 2000 and (d) Property Rights of Women.

ENFORCEMENT AGENCIES

POLICE

The Police force in the country is entrusted with the responsibility of

maintenance of public order and prevention and detection of crimes. Public order and police being state subjects under the Constitution, police is maintained and controlled by states.

The Police force in state is headed by the Director General of Police/Inspector General of Police. State is divided into convenient territorial divisions called ranges and each police range is under the administrative control of a Deputy Inspector General of Police. A number of districts constitute the range. District police is further sub-divided into police divisions, circles and police-stations. Besides the civil police, states also maintain their own armed police and have separate intelligence branches, crime branches, etc. Police set-up in big cities like Delhi, Calcutta, Mumbai, Chennai, Bangalore, Hyderabad, Ahmedabad, Nagpur, Pune, etc., is directly under a Commissioner of Police who enjoys magisterial powers. All senior Police posts in various states are manned by the India Police Service (IPS) cadres, recruitment to which is made on all-India basis. Recruitment, promotion and cadre control in respect of lower posts from police constable to deputy superintendent of police are done by the State Governments.

The Central Government maintains Central Police forces, Intelligence Bureau (IB), Central Bureau of Investigation (CBI), Institutions for training of police officers and forensic science institutions to assist the States in gathering intelligence, in maintaining law and order, in investigating special crime cases and in providing training to the senior police officers of the State Governments.

CENTRAL BUREAU OF INVESTIGATION

The Central Bureau of Investigation (CBI) was created in April 1963. Prior to that the organisation was known as Special Police Establishment created and functioning under the Delhi Special Police Establishment Act, 1946. In 1963, after the creation of the Central Bureau of Investigation, the functions of this organisation were enlarged covering besides investigation the role of National Central Bureau for India under the International Criminal Police Organisation (INTERPOL), as also the Central Forensic Science Laboratory.

The CBI, through its Special Police Establishment Division, is the principal investigating agency of the Central Government and is concerned with the investigation cases of misconduct by public servants in the employment of Central Government and its corporate undertakings; cases in which the interest of the Central government or any corporation or body set up and financed by the Central government are involved, cases relating to breaches of Central laws in the enforcement of which the Central Government is interested; big cases of fraud, cheating and embezzlement and other cases when committed by organised gangs or professional criminals having inter-state or international ramifications. CBI derives its power to investigate offences mentioned above from the Delhi Special Police Establishment Act, 1946. CBI indexes criminals involved in international crimes and verifies fingerprints from various foreign national crime bureaux. INTERPOL notices are also circulated to various enforcement agencies in the country.

INDO-TIBETAN BORDER POLICE

The Indo-Tibetan Border Police was raised in October 1962, in the wake of the Chinese aggression. The role being performed by ITBP is to : (i) safeguard the security of borders of India and promote a sense of security among the people living in border areas; (ii) prevent trans-border crimes, smuggling, unauthorised entry into or exit from the territory of India and any other illegal activity; (iii) provide security to sensitive installations, banks, persons of security risk and (iv) restore and preserve order in any area in the event of disturbance therein.

The ITBP has 20 battalions including four specialist battalions, three training institutions and six sector headquarters. The ITBP personnel are deployed at high altitudes to guard the Indo-Tibetan Border, extending from Karakoram Pass in Ladakh (J&K) to Lipulekh Pass at the Tri Junction of Indo-Tibet-Nepal Border. ITBP escorts the pilgrims to the holy Kailash-Mansarover and provides them with medical and communication cover. Apart from its defined role, ITBP has specialised in the field of unconventional warfare, counter insurgency, anti-terrorist operations and mountain warfare. Since June 1999, 10 battalions of ITBP are deployed in Kashmir Valley for anti-militancy operation and protection of Jawahar tunnel. ITBP is also performing various other duties like VVIPs/VIPs security, election duty, rescue and relief operations, conducting anti-naxalite operations, etc.

ITBP is also recognised for mountaineering, skiing and river-rafting activities. Officers and men of ITBP have scaled the world's highest mountain, Mount Everest, four times making a tally of more than hundred glorious climbs in the Himalayas, Iran, Alps and USA to its credit. ITBP has conducted two river-rafting expeditions. ITBP was awarded the best marching contingent trophies of the Republic Day Parades 1998, 1999 and 2000 among the participating police forces.

BORDER SECURITY FORCE

The Border Security Force (BSF) raised in 1965, is entrusted with the task of maintaining permanent vigilance on India's international borders. The present strength of BSF is 157 battalions, and it is guarding a total of 6,475.7 km of international borders, spread over mountains, inhospitable deserts, riverine, snow bound and marshy areas. BSF has been assigned the role of promoting a sense of security amongst the people living in the border areas and preventing trans-border crimes, such as smuggling, infiltration/exfiltration and other illegal activities.

ASSAM RIFLES

The Assam Rifles in its glorious history of 165 years is the oldest para-military force in the country. Raised as Cachar Levy in 1835, the Force has grown in size to 31 battalions. The primary role of the force is guarding the Indian borders with China and Myanmar, conduct counter insurgency operations in

the north-east and elsewhere in India. The force is fondly called "The Sentinels of the North-East" and "Friends of the Hill People".

NATIONAL SECURITY GUARDS

The National Security Guards (NSG) has been set up for handling terrorists, kidnappers, saboteurs, anti-hijacking operations, recovery of hostages, VIP security, etc. It is a highly trained and motivated Force for effectively dealing with terrorist activities in the country. It also trains state police commandos to upgrade their capability to meet the terrorist threats and carry out bomb detection/defusion operations. The Force is required to achieve and maintain high standards of professional competence. This elite Force has so far carried out 96 operations in various parts of the country.

CENTRAL RESERVE POLICE FORCE

The Central Reserve Police Force is an Armed Force of the Union of India for internal security management. This Force was raised in 1939 as the Crown Representative's Police and was renamed as Central Reserve Police Force in 1949. CRPF has a strength of 1,71,403 comprising of 123 battalions, ten RAF battalions, two *Mahila* battalions, five Signal battalions and one Special Duty Group. The CRPF assists the State police forces in the maintenance of law and order.

SARDAR VALLABHBHAI PATEL NATIONAL POLICE ACADEMY

The Sardar Vallabhbhai Patel National Police Academy is the premier police training institution in the country which imparts both basic and in-service training to Indian Police Service (IPS) officers. Established in 1948 at Mount Abu, Rajasthan, the Academy was shifted to Hyderabad in 1975. The training programmes conducted at the Academy are: the basic course for IPS probationers, three in-service management courses for officers of the junior, middle and top levels of the Indian Police Service, induction Training Course for SPS Officers, Training of Trainers and Training Administrators' Course, Vertical Interaction Course for IPS officers, and one week seminar for IAS and IPS officers and short-duration specialised courses, seminars and workshops for senior officers from IAS, IPS and Judiciary Services. The Academy also promotes study and research on police-related topics.

CIVIL DEFENCE

Civil Defence aims at saving life, minimising damage to property and maintaining continuity of industrial production in the event of any hostile attack. Central financial assistance to the states for Civil Defence measures is confined to categorised towns only. Civil Defence is primarily organised on voluntary basis except for a small nucleus of paid staff and establishment which is augmented during emergencies. At the moment Civil Defence activities are restricted to 225 categorised towns spread over 32 States/Union Territories. The present target of Civil Defence volunteers is 9.29 lakh, out

Prisons Act and the respective Jail Manuals. The Central Government has been providing financial assistance to supplement the efforts of the State Governments for modernisation of prison administration. Under the ongoing scheme for modernisation, Central assistance is provided for strengthening of security and communication arrangements, repair and renovation of prison buildings, medical facilities, vocational training, facilities for women offenders, etc. Assistance is also provided to a few selected states for construction of high security enclosures for accommodating hard-core terrorists. During the period from 1993 to March 2000 a grant of Rs 72.78 crore was released to various State Governments.

PERSONAL LAW

The people of India are of different religions and faiths. They are governed by different sets of personal laws in respect of matters relating to family affairs, i.e., marriage, divorce, succession, etc.

MARRIAGE

Law relating to marriage and/or divorce has been codified in different enactments applicable to people of different religions. These are :

1. The Converts' Marriage Dissolution Act, 1866;
2. The Indian Divorce Act, 1869;
3. The Indian Christian Marriage Act, 1872;
4. The Kazis Act, 1880;
5. The Anand Marriage Act, 1909;
6. The Child Marriage Restraint Act, 1929;
7. The Parsi Marriage and Divorce Act, 1936;
8. The Dissolution of Muslim Marriage Act, 1939;
9. The Special Marriage Act, 1954;
10. The Hindu Marriage Act, 1955;
11. The Foreign Marriage Act, 1969; and
12. The Muslim Women (Protection of Rights on Divorce) Act, 1986.

The Special Marriage Act, 1954 extends to the whole of India, except the State of Jammu and Kashmir and also applies to the citizens of India domiciled in the territories to which the Act extends but who are in Jammu and Kashmir. Persons governed by this Act can specifically register marriage under the said Act even though they are of different religious faiths. The Act also provides that the marriage celebrated under any other form can also be registered under the Special Marriage Act, if it satisfies the requirements of the Act. Recently, the Section 4 (b)(iii) of the Act has been amended to omit the words "or epilepsy".

An attempt has been made to codify customary law which is prevalent among Hindus by enacting the Hindu Marriage Act, 1955. The Hindu Marriage Act, 1955, which extends to the whole of India, except the State of Jammu and Kashmir, applies also to Hindus domiciled in territories to which the Act extends and who are outside the said territories. It applies to Hindus (in any of its forms or developments) and also to Buddhists, Sikhs, Jains and also those who are not Muslims, Christians, Parsis or Jews by religion. However, the Act does not apply to members of any scheduled tribes unless the Central Government by notification in the official Gazette otherwise directs. The Act along with the special Marriage Act, 1954 has been amended by the Marriage Laws (Amendment) Act, 1999 to omit the words "or epilepsy" in section 5(ii)(c) of the Act.

Provisions in regard to divorce are contained in Section 13 of the Hindu Marriage Act and Section 27 of the Special Marriage Act. Common ground on which divorce can be sought by a husband or a wife under these Acts fall under broad heads: adultery, desertion, cruelty, unsoundness of mind, venereal disease, leprosy, mutual consent and being not heard of as alive for seven years. As regards the Christian community, provisions relating to marriage and divorce are contained in the Indian Christian Marriage Act, 1872 and in Section 10 of the Indian Divorce Act, 1869 respectively. Under that Section, the husband can seek divorce on grounds of adultery on the part of his wife and the wife can seek divorce on the ground that the husband has become convert to another religion and has gone through marriage with another woman or has been guilty of (a) incestuous adultery, (b) bigamy with adultery, (c) marriage with another woman with adultery, (d) rape, sodomy or bestiality, (e) adultery coupled with such cruelty as without adultery would have entitled her to a divorce, a *mensa etoro* (a system of divorce created by the Roman Catholic Church equivalent to judicial separation on grounds of adultery, perverse practices, cruelty, heresy and apostasy) and (f) adultery coupled with desertion without reasonable excuse for two years or more.

As regards Muslims, marriages are governed by the Mohammedan Law prevalent in the country. As regards divorce, i.e., *Talaq*, a Muslim wife has much restricted right to dissolve her marriage. Unwritten and traditional law tried to ameliorate her position by permitting her to seek dissolution under the following forms : (a) *Talaq-i-Tafwid*: This is a form of delegated divorce. According to this, the husband delegates his right to divorce in a marriage contract which may stipulate that, *inter alia*, on his taking another wife, the first wife has a right to divorce him; (b) *Khula* : This is a dissolution of agreement between the parties to marriage on wife's giving some consideration to husband for her release from marriage ties. Terms are a matter of bargain and usually take the form of the wife giving up her *mehr* or a portion of it, and (c) *Mubarat*: This is divorce by mutual consent.

Further, by the Dissolution of Muslim Marriage Act, 1939, a Muslim wife has been given right to dissolve marriage on these grounds: (i) whereabouts

of the husband have not been known for a period of four years; (ii) husband is not maintaining her for a period of two years; (iii) imprisonment of husband for a period of seven years or more; (iv) failure on the part of husband to perform his marital obligations, without a reasonable cause, for a period of three years; (v) impotency of husband; (vi) insanity for a period of two years; (vii) suffering from leprosy or virulent venereal disease; (viii) marriage took place before she attained the age of 15 years and not consummated; and (ix) cruelty.

The Parsi Marriage and Divorce Act, 1936 governs the matrimonial relations of Parsis. The word 'Parsi' is defined in the Act as a Parsi Zoroastrian. A Zoroastrian is a person who professes the Zoroastrian religion. It has a racial significance. Every marriage as well as divorce under this Act is required to be registered in accordance with the procedure prescribed in the Act. However, failure to fulfil requirements on that behalf does not make marriage invalid. The Act provides only for monogamy. By the Parsi Marriage and Divorce (Amendment) Act, 1988 (5 of 1988), scope of certain provisions of the Parsi Marriage and Divorce Act, 1936 have been enlarged so as to bring them in line with the Hindu Marriage Act, 1955.

As for the matrimonial laws of Jews, there is no codified law in India. Even today, they are governed by their religious laws. Jews do not regard marriage as a civil contract, but as a relation between two persons involving very sacred duties. Marriage can be dissolved through courts on grounds of adultery or cruelty. Marriages are monogamous.

CHILD MARRIAGE

The Child Marriage Restraint Act, 1929, as amended in 1978, now provides that marriage age for male will be 21 years and for female 18 years. This amendment has been brought into force from 1 October 1978.

ADOPTION

Although there is no general law of adoption, yet it is permitted by a statute amongst Hindus and by custom amongst a few numerically insignificant categories of persons. Since adoption is legal affiliation of a child, it forms the subject matter of personal law. Muslims, Christians and Parsis have no adoption laws and have to approach court under the Guardians and Wards Act, 1890. Muslims, Christians and Parsis can take a child under the said Act only under foster care. Once a child under foster care becomes major, he is free to break away all his connections. Besides, such a child does not have legal right of inheritance. Foreigners, who want to adopt Indian children have to approach the court under the aforesaid Act. In case the court has given permission for the child to be taken out of the country, adoption according to a foreign law, i.e., law applicable to guardian takes place outside the country.

Hindu law relating to adoption has been amended and codified into the

Hindu Adoptions and Maintenance Act, 1956 (78 of 1956), under which a male or female Hindu having legal capacity, can take a son or daughter in adoption. In dealing with the question of guardianship of a minor child, as in other spheres of family law, there is no uniform law. Hindu Law, Muslim Law and the Guardians and Wards Act, 1890 are three distinct legal systems which are prevalent. A guardian may be a natural guardian, testamentary guardian or a guardian appointed by the court. In deciding the question of guardianship, two distinct things have to be taken into account - person of the minor and his property. Often the same person is not entrusted with both.

The Hindu Minority and Guardianship Act, 1956 (32 of 1956) has codified laws of Hindus relating to minority and guardianship. As in the case of uncodified law, it has upheld the superior right of father. It lays down that a child is a minor till the age of 18 years. Natural guardian for both boys and unmarried girls is first the father and then the mother. Prior right of mother is recognised only for the custody of children below five. In case of illegitimate children, the mother has a better claim than the putative father. The Act makes no distinction between the person of the minor and his property and, therefore, guardianship implies control over both. The Act directs that in deciding the question of guardianship, courts must take the welfare of child as the paramount consideration.

Under the Muslim Law, the father enjoys a dominant position. It also makes a distinction between guardianship and custody. For guardianship, which has usually reference to guardianship of property, according to Sunnis, the father is preferred and in his absence his executor. If no executor has been appointed by the father, the guardianship passes on to the paternal grandfather. Among Shias, the difference is that the father is regarded as the sole guardian but after his death, it is the right of the grandfather to take over responsibility and not that of the executor. Both schools, however, agree that father while alive is the sole guardian. Mother is not recognised as a natural guardian even after the death of the father.

As regards rights of a natural guardian, there is no doubt that father's right extends both to property and person. Even when mother has the custody of minor child, father's general right of supervision and control remains. Father can, however, appoint mother as a testamentary guardian. Thus, though mother may not be recognised as natural guardian, there is no objection to her being appointed under the father's will.

Muslim law recognises that mother's right to custody of minor children (*Hizanat*) is an absolute right. Even the father cannot deprive her of it. Misconduct is the only condition which can deprive the mother of this right. As regards the age at which the right of mother to custody terminates, the Shia school holds that mother's right to the *Hizanat* is only during the period of rearing which ends when the child completes the age of two, whereas Hanafi school extends the period till the minor son has reached the age of seven. In case of girls, Shia laws uphold mother's right till the girl reaches

the age of seven and Hanafi school till she attains puberty.

The general law relating to guardians and wards is contained in the Guardians and Wards Act, 1890. It clearly lays down that father's right is primary and no other person can be appointed unless the father is found unfit. This Act also provides that the court must take into consideration the welfare of the child while appointing a guardian under the Act.

MAINTENANCE

Obligation of a husband to maintain his wife arises out of the status of the marriage. Right to maintenance forms a part of the personal law.

Under the Code of Criminal Procedure, 1973 (2 of 1974), right of maintenance extends not only to the wife and dependent children, but also to indigent parents and divorced wives. Claim of the wife, etc., however, depends on the husband having sufficient means. Claim of maintenance for all dependent persons is limited to Rs 500 per month. Inclusion of the right of maintenance under the Code of Criminal Procedure has the great advantage of making the remedy both speedy and cheap. However, divorced wives who have received money payable under the customary personal law are not entitled to maintenance claims under the Code of Criminal Procedure.

Under Hindu Law, the wife has an absolute right to claim maintenance from her husband. But she loses her right if she deviates from the path of chastity. Her right to maintenance is codified in the Hindu Adoptions and Maintenance Act, 1956 (78 of 1956). In assessing the amount of maintenance, the court takes into account various factors like position and liabilities of the husband. It also judges whether the wife is justified in living apart from husband. Justifiable reasons are spelt out in the Act. Maintenance *pendente lite* (pending the suit) and even expenses of a matrimonial suit will be borne by either, husband or wife, if the either spouse has no independent income for his or her support. The same principle will govern payment of permanent maintenance.

Under the Muslim Law, the Muslim Women (Protection of Rights on Divorce) Act, 1986 protects rights of Muslim women who have been divorced by or have obtained divorce from their husbands and provides for matters connected therewith or incidental thereto. This Act *inter alia* provides that a divorced Muslim woman shall be entitled to (a) reasonable and fair provision and maintenance to be made and paid to her within the *iddat* period by her former husband; (b) where she herself maintains children born to her before or after her divorce, a reasonable and fair provision and maintenance to be made and paid by her former husband for a period of two years from the respective dates of birth of such children; (c) an amount equal to the sum of *mehr* or dower agreed to be paid to her at the time of her marriage or at any time thereafter according to the Muslim Law and (d) all property given to her before or at the time of marriage or after her marriage by her relatives or friends or by husband or any relatives of the husband or his friends.

In addition, the Act also provides that where a divorced Muslim woman is unable to maintain herself after the period of *iddat*, the magistrate shall order directing such of her relatives as would be entitled to inherit her property on her death according to the Muslim Law, and to pay such reasonable and fair maintenance to her as he may determine fit and proper, having regard to the needs of the divorced woman, standard of life enjoyed by her during her marriage and means of such relatives, and such maintenance shall be payable by such relatives in proportion to the size of their inheritance of her property and at such periods as he may specify in his order.

Where such divorced woman has children, the Magistrate shall order only such children to pay maintenance to her, and in the event of any such children being unable to pay such maintenance, the magistrate shall order parents of such divorced woman to pay maintenance to her.

In the absence of such relatives or where such relatives are not in a position to maintain her, the magistrate may direct State Wakf Board established under Section 13 of the Wakf Act, 1995 functioning in the area in which the woman resides, to pay such maintenance as determined by him.

The Parsi Marriage and Divorce Act, 1936 recognises the right of wife to maintenance—both alimony *pendente lite* and permanent alimony. The maximum amount that can be decreed by court as alimony during the time a matrimonial suit is pending in court, is one-fifth of the husband's net income. In fixing the quantum as permanent maintenance, the court will determine what is just, bearing in mind the ability of husband to pay, wife's own assets and conduct of the parties. The order will remain in force as long as wife remains chaste and unmarried.

The Indian Divorce Act, 1869 *inter alia* governs maintenance rights of a Christian wife. The provisions are the same as those under the Parsi law and the same considerations are applied in granting maintenance, both alimony *pendente lite* and permanent maintenance.

SUCCESSION

The Indian Succession Act was enacted in 1925. The object of the Act was to consolidate the large number of laws which were in existence at that time. Laws governing succession to Muslims and Hindus were excluded from the purview of the Act. While consolidating the laws in respect of succession, two schemes, one relating to succession to property of persons like Indian Christians, Jews and persons married under the Special Marriage Act, 1954 and the other relating to succession rights of Parsis, were adopted.

In the first scheme, applying to those other than Parsis, in the case of a person dying intestate leaving behind a widow and lineal descendants, the widow would be entitled to a fixed share of one-third of property and lineal descendants shall be entitled to the remaining two-third. This law was amended subsequently with the object of improving rights of widows and

it was provided that where the intestate dies leaving behind his widow and no lineal descendant and the net value of the estate does not exceed Rs 5,000, the widow would be entitled to the whole of his property. Where the net value of the estate exceeds Rs 5,000 she is entitled to charge for the sum of Rs 5,000 with interest at four per cent payment and in the residue, she is entitled to her share. The Act imposes no restriction on the power of a person to will away his property.

Under the second scheme, the Act provides for Parsi intestate succession. By the Indian Succession (Amendment) Act, 1991 (51 of 1991), the Act has been amended to provide equal shares for both sons and daughters in their parental properties, irrespective of the fact that it was that of the father or that of the mother. It also enables the Parsis to bequeath their property to religious or charitable purposes, etc., without any restrictions. In effect the amended law provides that where a Parsi dies intestate leaving behind a widow or widower as the case may be, and children, the property shall be divided so that the widow or widower and each child receives equal shares. Further, where a Parsi dies leaving behind one or both parents in addition to children, or widow or widower and children, the property shall be so divided that the parent or each of the parents shall receive a share equal to half the share of each child.

The law relating to intestate succession among Hindus is codified in the Hindu Succession Act, 1956 (30 of 1956). It extends to the whole of India except the State of Jammu and Kashmir. The remarkable features of the Act are the recognition of the right of women to inherit property of an intestate equally with men and abolition of the life estate of female heirs.

A vast majority of Muslims in India follow Hanafi doctrines of Sunni law. Courts presume that Muslims are governed by Hanafi law unless it is established to the contrary. Though there are many features in common between Shia and Sunni schools, yet there are differences in some respects. Sunni law regards Koranic verses of inheritance as an addendum to pre-Islamic customary law and preserves the superior position of male agnates. Unlike Hindu and Christian laws, Muslim law restricts a person's right of testation. A Muslim can bequeath only one-third of his estate. A bequest to a stranger is valid without the consent of heirs if it does not exceed a third of the estate, but a bequest to an heir without the consent of other heirs is invalid. Consent of heirs to a bequest must be secured after the succession has opened and any consent given to a bequest during the lifetime of the testator can be retracted after his death. Shia law allows Muslims the freedom of bequest within the disposable third.

ACTS OF PARLIAMENT

During 1999, 49 Bills were enacted into Acts. A list of these Acts is furnished below :

1. The Export-Import Bank of India (Amendment) Act, 1998.

2. The Cotton-Ginning and Pressing Factories (Repeal) Act, 1998.
3. The High Denomination Bank Notes (Demonetisation) Amendment Act, 1998.
4. The Railway Claims Tribunal (Amendment) Act, 1998.
5. The Leaders and Chief Whips of Recognised Parties and Groups in Parliament (Facilities) Act, 1998.
6. The Delhi Development Authority (Validation of Disciplinary Powers) Act, 1998.
7. The High Court and Supreme Court Judges (Salaries and Conditions of Services) Amendment Act, 1998.
8. The Customs (Amendment) Act, 1998.
9. The Appropriation (Railways) Act, 1998.
10. The Appropriation (No. 4) Act, 1998.
11. The Income-tax (Second Amendment) Act, 1998.
12. The Finance (No. 2) Amendment Act, 1998.
13. The Goa Appropriation (Vote on Account) Act, 1998.
14. The Goa Appropriation Act, 1999.
15. The Urban Land (Ceiling and Regulation) Repeal Act, 1999.
16. The Salary Allowances and Pension of Members of Parliament (Amendment) Act, 1999.
17. The Patents (Amendment) Act, 1999.
18. The Appropriation Railways (Vote on Account) Act, 1999.
19. The Appropriation (Railways) Act, 1999.
20. The Appropriation (Railways) No. 2 Act, 1999.
21. The Companies (Amendment) Act, 1999.
22. The Appropriation (Vote on Account) Act, 1999.
23. The Appropriation Act, 1999.
24. The Appropriation (No. 2) Act, 1999.
25. The Appropriation (Railways) No. 3 Act, 1999.
26. The Appropriation (No. 3) Act, 1999.
27. The Finance Act, 1999.
28. The Income-Tax (Amendment) Act, 1999.
29. The Contingency Fund of India (Amendment) Act, 1999.

30. The Representation of the People (Amendment) Act, 1999.
31. The Securities Laws (Amendment) Act, 1999.
32. The Securities Laws (Second Amendment) Act, 1999.
33. The Indian Majority (Amendment) Act, 1999.
34. The Administrators-General (Amendment) Act, 1999.
35. The Special Protection Group (Amendment) Act, 1999.
36. The Notaries (Amendment) Act, 1999.
37. The Appropriation (No. 4) Act, 1999.
38. The Mines and Minerals (Regulation and Development) Amendment Act, 1999.
39. The Marriage Laws (Amendment) Act, 1999.
40. The Central Industrial Security Force (Amendment) and Validation Act, 1999.
41. The Insurance Regulatory and Development Authority Act, 1999.
42. The Foreign Exchange Management Act, 1999.
43. The Appropriation (Railways) No. 4 Act, 1999.
44. The National Trust for Welfare of Persons with Autism Cerebral Palsy Mental Retardation and Multiple Disabilities Act, 1999.
45. The Vice-President's Pension (Amendment) Act, 1999.
46. The Code of Civil Procedure (Amendment) Act, 1999.
47. The Trade Marks Act, 1999.
48. The Geographical Indication of Goods (Registration and Protection) Act, 1999.
49. The Copy Right (Amendment) Act, 1999.

27 Youth Affairs and Sports

YOUTH represent the most vibrant section of the society. They play a pivotal role in socio-economic changes and development of the society. A nation can progress only when the energy of youth is channelised into constructive work. It is imperative that youth are given a major role in the process of development. In India, the youth form nearly one-third of the total population. With the objective of fulfilling the aspirations of this group and empowering them as the active and constructive agents of positive change, the Department of Youth Affairs and Sports has been implementing several programmes.

YOUTH SERVICES

NATIONAL YOUTH POLICY

The National Youth Policy was formulated in 1988. The main objectives of the Youth Policy are to instil in the youth respect for the principles and values enshrined in our Constitution; to promote an awareness of our historical heritage; to help develop the qualities of discipline, self-reliance, justice and fair play; and to provide them access to education in addition to developing their personality. It also aims at making the youth conscious of international issues and involving them in promoting world peace and a just international economic order.

A need was, however, felt for a new National Youth Policy geared not only to the fast-changing socio-economic scenario in the country but also to address the future concerns of the youth. The process to formulate a new National Youth Policy was initiated in consultation with various State governments, youth wings of political parties, Members of Parliament, youth organisations, as well as other concerned agencies, and a Draft New National Youth Policy has been formulated for further consideration of the Government.

The Draft New Youth Policy recognises that youth development is a multisectoral concept and calls for an integrated approach. It stresses that the youth should be given more access to the process of decision-making and implementation. It also defines the privileges and responsibilities of youth.

Some important objectives of the Policy are to provide the youth with proper educational and employment opportunities; to give access to all relevant information; create adequate sports and other recreational facilities; to create among the youth awareness about Indian history, culture and heritage and to inculcate a scientific temper in them. The draft policy has set out four thrust areas, viz., Youth Empowerment, Gender Justice, Inter-sectoral Approach and an Information and Research Network.

The Policy recognises the key sectors of concern for youth, such as education, training and employment, health and accords high priority to

certain categories of youth such as youth with disabilities, rural youth, unemployed youth and street children etc. The Policy also focuses on adolescent health, AIDS and sexually transmitted diseases, nutrition, environment, sports, recreation and leisure, art and culture, gender justice, science and technology, civic sense and citizenship.

NATIONAL SERVICE SCHEME

National Service Scheme, popularly known as NSS, was launched in Gandhinagar Balli, Coimbatore, from 1969 in 5 universities involving 1,000 students with primary focus on the development of personality of students through compulsory service. Today NSS has about 16.8 lakh student volunteers in 1000 spread over 100 universities and 27 senior secondary colleges. From 1969 up to 1999 more than 1.5 crore students from the universities, colleges and institutions of higher learning have benefited from NSS activities. A NSS volunteer. Due to its overwhelming popularity and demand, the scheme was extended to the students of C/P schools in selected districts.

The National Service Scheme has two types of programmes viz. Regular Activities and Special Camping Programme undertaken by its volunteers. Under Regular Activities, students are expected to work as volunteers for two days, rendering community service for a maximum of 120 hours per annum. The activities include constructive work in adopted villages and rural based activities, adult and non-formal education, health, nutrition, literacy, welfare, AIDS awareness, camp, voter list updation, improvement of environment etc. Under Special Camping Programme, a camp of 10 days duration is conducted every year in the adopted areas or a special theme like Youth for the Environment and Tree-plantation, Youth for Food, Peace, Gender, Youth for Development, Youth for Mass Literacy, Youth for Social Harmony, Youth for Health, Safety etc.

NATIONAL YOUTH KAMPAK (NAYKA) NATIONALISM

Nayka Kampani (Nayka) in NPK is an autonomous organisation of the Department of Youth Affairs and Sports. Nayka has its offices in every one of the States of the country. It has become the largest grassroot level organisation working in the world catering to the needs of more than eight million youth and youth leaders of the 26,158 lakh villages and 10 lakh Cities. These Youth Clubs were in the areas covering education and training, awareness generation and development and self-employment entrepreneurship development, health and recreation, social development of the body through sports and adventure and moral through sustained exposure to new ideas and development strategies. For implementation of the programmes, every District Nayka has a network of trained cadre of District Youth Coordinators, National Service Volunteers and Youth Leaders. The strength of Nayka is its vast network of Youth Clubs at grassroot level.

Regular programmes of Nayka are youth club development programmes, youth club training programmes, awareness generation programmes, youth

PROMOTION OF ACTIVITIES AMONG TRIBAL YOUTH

In order to promote youth activities among the youth of backward tribes a special scheme was started during 1990-91. Under the scheme, Central assistance is given to voluntary organisations, NSS regional centres, educational institutions including universities, *Nehru Yuva Kendras*, Bharat Scouts and Guides and also to State governments/UT administrations for conducting youth leadership training programmes and vocational training for self-employment.

EXHIBITIONS FOR YOUTH

The scheme aims at: (i) projecting and recognising the activities and contribution made by youth in various fields of national development; (ii) promoting the spirit of secularism and national integration; (iii) enabling youth to know more about the life and culture of other parts of the country; and (iv) exhibitions of folk dances, folk songs, paintings, art and crafts, books, as well as on various development and youth related schemes. Financial assistance is given to voluntary organisations, NYK Sangathan, NSS regional centres, educational institutions including universities, State governments/UTs. Such exhibitions are organised by the Department of Youth Affairs and Sports itself.

RAJIV GANDHI NATIONAL INSTITUTE OF YOUTH DEVELOPMENT

The Rajiv Gandhi National Institute of Youth Development set up at Sriperumbudur (Tamil Nadu) functions as an autonomous body for co-ordinating and monitoring youth related activities in the country. The Institute will also function as: (i) a research agency and think-tank for youth programmes, policies and implementation strategies; (ii) develop multi-faceted programmes for youth; (iii) function as an institute for advanced studies in the field of youth; (iv) function as a Centre for documentation, information and publications pertaining to youth development; and (v) work as a Resource Centre.

SCOUTING AND GUIDING

Scouting and Guiding is an educational and international movement aiming at developing the character of boys and girls. It inculcates in them a spirit of patriotism, sympathy for others and social service. Bharat Scouts and Guides mainly promotes these activities in India. The Department of Youth Affairs and Sports extends financial assistance. It is the third largest youth organisation in the world with about 85,000 units having 23 lakh enrolments all over the country. The activities of units include adult literacy, tree plantations, community service, leprosy awareness, promotion of hygiene and sanitation, etc.

PROMOTION OF ADVENTURE

This scheme aims at fostering in youth the spirit of risk-taking, endurance, cooperative team work and encouraging quick, ready and effective reflexes in challenging situations. Financial assistance is provided to institutions,

groups, individuals and voluntary organisations for undertaking adventure activities. The number of activities covered under the scheme has been enlarged. The major thrust during 1999-2000 has been on providing financial assistance for creation of infrastructure and promotion of Aero-sports and Water sports. An amount of Rs 140 lakh was provided for 80 adventure programmes up to January 2000 during the year.

PROMOTION OF NATIONAL INTEGRATION

The Scheme for Promotion of National Integration aims at providing financial assistance for a variety of youth programmes aimed at fostering national integration and communal harmony. The scheme provides the framework for greater exchange and understanding among youth of the various regions of the country and for greater involvement of voluntary agencies in the task of national integration. Holding of National Integration camps and Inter-State Youth Exchange programmes are the two main programmes under the scheme. The funds are channelised through voluntary youth organisations.

NATIONAL YOUTH FESTIVAL

The Sixth National Youth Festival was held from 12-16 January 2000 at Gandhinagar (Gujarat). About 2,500 youth from 23 States/UTs participated in various competitive events and the cultural panorama. The theme of the festival was 'New Millennium -India's Millennium'. During the Festival, National Youth Awards for 1998-99 were also given away.

YOUTH HOSTELS

Youth hostels are built to promote youth travel to enable the young people experience the rich cultural heritage of our country. The construction of Youth Hostels has been conceived as a joint venture of the Central and State Governments. While the Central Government bears the cost of the construction, the State government provides developed land free of cost with water, electricity, approach roads and staff quarters. Youth Hostels, after completion, are handed over to the State government for management. So far 59 Youth Hostels have been constructed and 18 are under construction.

ASSISTANCE TO RURAL YOUTH AND SPORTS CLUBS

The scheme of assistance to Youth Clubs was started in 1986-87. It is being implemented through NYK Sangathan on an agency basis for assisting newly formed Youth Clubs. Each Youth Club is given a one-time financial assistance of Rs 15,000. The scheme of assistance to Sports Clubs was started in 1970-71 as part of the Rural Sports Programme. It aims at promoting Voluntary Sports Clubs/Sports Centres, one in each block, with one-time grant up to Rs 30,000 (Rs 45,000 in case of a tribal block).

YOUTH DEVELOPMENT CENTRES

The Youth Development Centre Scheme was introduced during 1994-95. It aims at providing an intermediate tier between youth clubs at the village level

and Nehru Yuva Kendra at the district level. The Youth Development Centres are intended to become the focal point for all youth-related activities in the villages covered by them. Normally, one centre would cover not more than 10 villages though initially the centre may cover more than 10 villages. During 1999-2000, an amount of Rs 17,40,000 has been provided for setting up of 58 such centres.

AWARD TO OUTSTANDING YOUTH CLUBS

With a view to recognising the contribution of youth clubs and motivating them for more active participation in the nation-building endeavour, this scheme was introduced during 1992-93. The scheme is implemented through the *Nehru Yuva Kendra Sangathan* and is operated on a three-tier basis, i.e., district, state and national levels. At the district level the winner receives an award of Rs 10,000 and at the State level Rs 25,000. At the national level, there are three awards of Rs one lakh, Rs 50,000 and Rs 25,000. The prize money is to be used for community-based projects.

SPORTS

NATIONAL SPORTS POLICY

The Policy resolution is based on a time-bound programme to provide infrastructure to sports and physical education in villages and towns and provide appropriate equipments to sports persons. It enjoins upon the State/UT governments to preserve playfields and open space and emphasises the need for effective training and competition programme for preparation of national teams to participate in international competitions.

ORGANISATIONS

SPORTS AUTHORITY OF INDIA

Sports Authority of India (SAI) was established by the Government of India in January 1984 as a registered society primarily to ensure effective maintenance and optimum utilization of the various sports infrastructure that were built in Delhi during Asiad, 1982. It is now the nodal agency in the country for broad-basing sports and for training of sports persons to achieve excellence in national and international sports arena. In order to have only one government agency at the apex for the promotion of sports, the Society for National Institute of Physical Education and Sports (SNIPES) was merged with SAI with effect from 1 May 1987. Subsequently, Netaji Subhash National Institute of Sports (NSNIS), Patiala and its allied centres at Bangalore, Calcutta and Gandhinagar and Lakshmibai National College of Physical Education at Thiruvananthapuram came under Sports Authority of India. It has now six regional centres at Bangalore, Gandhinagar, Calcutta, Chandigarh, Delhi and Imphal. A scheme has been introduced to set up 'Centres of Excellence' at these centres. It has two sub-centres at Guwahati under the north-eastern centre and at Aurangabad under the western centre.

The Sports Authority of India has a number of sports schemes/

programmes under implementation. Under the spotting and nurturing of talent project, SAI has National Sports Talent Contest (NSTC), adoption of *akharas* for promotion of wrestling, and Army Boys Sports Company (ABSC) scheme to scout talent in the age group of 8-14 years to provide them systematic training with scientific back-up. The scheme to extend the talent scouting to *Kendriya Vidyalayas*, *Navodaya Vidyalayas*, large-size residential schools and public sector townships has also been approved recently. SAI also has a scheme for promotion of sports in special areas, national coaching scheme. In addition, SAI implements a number of Central schemes. Steps have been taken for setting up regional and national academics for different sports disciplines with a number of public and private sector undertakings.

LAKSHMIBAI NATIONAL INSTITUTE OF PHYSICAL EDUCATION

The Lakshmibai National Institute of Physical Education formerly known as the Lakshmibai National College of Physical Education was established by the Government of India on 17 August 1957, the centenary year of War of Independence. The Institute is located at Gwalior where Rani Lakshmibai of Jhansi, a valiant heroine of Independence war laid down her life. The Institute is an autonomous organisation of the Department and is registered under Societies Registration Act. The Institute had been upgraded to a "Deemed University" status in 1995.

During 1999-2000, the Institute offered the following full time courses: (i) Bachelor of Physical Education (three-year degree course); (ii) Master of Physical Education (two-year degree course); (iii) Master of Physical Education (Summer three-year course) for in-service teachers; and (iv) M. Phil. in Physical Education (one-year course).

The total number of graduates, post-graduates and M. Phil. students passed out from the Institute till the academic year 1998 are 3,015, 1,614 and 206 respectively.

GRANTS FOR CREATION OF SPORTS INFRASTRUCTURE

The Central Government supplements the efforts of the State governments, State sports councils, etc., towards improving and creating infrastructural facilities for sports. Grants are given for construction of stadia, swimming pools, gymnasias, sports complexes, etc. Mostly, financial assistance is given on a sharing basis of 50:50 between the Centre and the sponsoring agency, subject to specified limits, through concerned States/Union Territories. For hilly/tribal areas, the Central contribution is 75 per cent subject to a maximum of certain specified ceiling. Scope of this scheme has since been enlarged to assist the State governments/UT administrations in creation of State/District level sports complexes. *Kendriya Vidyalaya Sangathan*, *Navodaya Vidyalaya Samiti*, and State/UT Administration are also eligible for assistance up to Rs five lakh for construction/improvement of certain facilities in their schools. The budget allocation for the scheme is Rs 6.56 crore.

GRANTS FOR SYNTHETIC PLAYING SURFACES

The Central Government was giving grants for laying of synthetic tracks and artificial surfaces for hockey and other synthetic surfaces for volleyball, basketball, tennis, etc. With a number of synthetic surfaces having come up backed by financing from State governments, local bodies, etc., the Central Government has now decided to concentrate only on hockey surface and athletics tracks. Accordingly the Central assistance up to Rs one crore or 50 per cent of the estimated cost, whichever is less, is provided for laying or replacement of the hockey surface and athletic track only.

PROMOTION OF SPORTS IN THE UNIVERSITY SECTOR

Under the Scheme of Grants for Promotion of Sports in Universities and Colleges, assistance is provided to the Universities/Colleges for development of playgrounds, construction of Indoor Stadium/facilities in the ratio of 75:25 in the case of Special Category States and in the ratio of 50:50 to all other States, subject to certain ceilings. Assistance is also given for purchase of sports equipment up to maximum ceiling of Rs 3 lakh. The Association of Indian Universities is also provided assistance for holding Coaching/Training Camps of Sports persons, inter-university tournaments and participation in foreign tournaments. Maulana Abul Kalam Azad Trophy is awarded every year to the overall winner of inter-university tournaments. Cash incentives of Rs one lakh, Rs 50,000 and Rs 25,000 are also given to the universities winning the first three positions for purchase of sports equipments.

NATIONAL SPORTS FESTIVAL FOR WOMEN

The scheme started in 1975 aims at promoting sports among women. The National Sports Festival organised by SAI discovers talents at the block, district, State/UT and National level. Competitions are organised at all levels in 12 identified disciplines.

SPORTS SCHOLARSHIP SCHEME

Sports Talent Search Scholarship scheme launched in 1970-71 has culminated in Sports Scholarship Scheme 1997. National level, State level and university/college level scholarships at the rate of Rs 600, Rs 450 and Rs 750 per month respectively are given under the scheme.

AWARDS

The Arjuna Award was instituted in 1961 as the highest national recognition conferred on distinguished sports persons. The award consists of a bronze statuette of Arjuna, a scroll, a cash prize of Rs 1,50,000 and a ceremonial dress. Arjuna Awards for the year 1998 were presented to 30 outstanding sports persons on 1 September 1999. So far 522 sports persons have been given the Awards.

Dronacharya Awards, instituted in 1985, are given to coaches who have trained sports persons or teams making outstanding achievements in the year

for which the award is given and consistently have very good achievements to their credit for three preceding years. Provisions have been added to the scheme for considering those who have contributed their lifetime to raising the standards of sports coaches. It comprises a statuette, a scroll, ceremonial dress and a tie in addition to a cash prize of Rs 75,000.

GRANTS TO NATIONAL SPORTS FEDERATIONS

The Department gives financial assistance to recognised National Sports Federations (NSFs) for conducting National Sports Championships. Financial assistance to priority and general category of sports disciplines is also provided for participation in international sports tournaments/championships abroad and also for organising international tournaments in India. During 1999-2000, 78 proposals of NSFs for foreign exposure and holding International Tournament at Government Cost and 39 proposals at No Cost to Government were cleared.

INCENTIVES FOR PROMOTION OF SPORTS ACTIVITIES

(1) **Rajiv Gandhi Khel Ratna Award:** Under this scheme an award for the most spectacular and outstanding performance is given in the field of sports to an individual sports person or a team. The amount of award has been enhanced to Rs three lakh from Rs one lakh. Athlete Mrs Jyotirmoyee Sikdar was given this award for 1998-99.

(2) **Cash Awards to Medal Winners in International Sports Events:** To attract the young generation to take sports as a career and to encourage the outstanding sports persons for even higher achievements, special awards to the medal winners of international sports events and their coaches were introduced in 1986. The amount of awards has recently been revised which ranges from Rs 75,000 to Rs 15 lakh.

(3) **Pension to Meritorious Sports Persons:** Under the scheme launched in 1994 pension is given to winners of medals in Olympic, World Cup/World Championships, Asian and Commonwealth Games. While Olympic Games medalists and Gold medalists of World Cup and World Championship are given pension of Rs 2,500 per month, Silver and Bronze medalists of World Cup/World Championship, Gold Medalists of Asian Games and Commonwealth Games get Rs 2,000 as monthly pension. Pension is given on attaining the age of 30 years which continues during their lifetime. At present 210 sports persons are receiving pensions under the scheme.

(4) **Promotion of Sports in Schools:** The scheme was launched in 1986 with the objectives of promoting sports in schools. It has been designed to generate interest in sports and games in school children and place greater emphasis on the organisation of tournaments at various levels. The State governments are given financial assistance for organising State Level tournaments.

NATIONAL WELFARE FUND FOR SPORTS PERSONS

National Welfare Fund for sports-persons and their families was created in

1982 primarily to assist outstanding sports persons of yester years who are living in indigent circumstances. Financial support is generally in the form of a monthly pension up to Rs 2,500. Lump-sum grants up to Rs 40,000 are also given for medical treatment. The sports persons suffering from grievous and fatal injuries in the course of participation in sports events during training are also helped.

RURAL SPORTS PROGRAMME

The Rural Sports Programme is implemented to broad-base games and sports and tap talents from far-flung and rural areas. The programme was launched in 1970-71 with a view to strengthening sports at the grass-root level and provide an opportunity to rural youth for entering the National mainstream of sports especially in the North Eastern Region. Competitions are held at block, district, State/UT and National levels in 10 identified disciplines for which financial assistance is provided by the Department of Youth Affairs and Sports. During 1999-2000, the North East Sports Festival was organised in Tinsukia, Assam.

INTERNATIONAL COOPERATION

The Commonwealth Youth Programme (CYP) came into being in 1974 with the purpose of promoting the development of young men and women in the Commonwealth. Its main objectives are: to encourage and support participation of youth in the process of national development; to give recognition to the contribution made by youth in economic, social and cultural development; to promote productive activity in order to eliminating unemployment; and to provide opportunities for international understanding among youth. The headquarters of CYP is at the Commonwealth Secretariat, London and one of its four Regional Centres is in Chandigarh for the Asia Region. The programmes are financed by the member countries. India's contribution to CYP during 1999-2000 was Rs 64.34 lakh.

UNITED NATIONS VOLUNTEER SCHEME

United Nations Volunteer (UNV) Scheme is a scheme of United Nations Development Programme (UNDP) operating throughout the world. It seeks to accelerate the development of under-developed countries by providing skilled manpower of developed/developing countries at low costs. India has been participating in it since its inception in 1970. India also contributes financially to the Special Voluntary Fund of UNDP and its present annual contribution is US dollar 15,000. At present, 56 Indian nationals are working abroad as UNVs and 118 are on the Rosters of UNDP awaiting assignment.

The scheme also envisages posting of social service volunteers among the countries of Asia and the Pacific region to work at grass-root level to assist in the local self-help efforts of rural areas and urban slums in participating countries. This is known as UNV - DDS (Domestic Development Service) Scheme. At present, eight Indian DDS volunteers are working abroad. The 5th of December is celebrated as the International Volunteers Day. United

Nations has declared the year 2001 as the International Year of Volunteers.

NATIONAL SPORTS DEVELOPMENT FUND

A National Sports Development Fund has been created by the Central Government to mobilize financial resources from Government, corporate and private sector as well as individuals for promotion of sports. The Government has contributed Rs two crore. Besides, a contribution of Rs 10.10 lakh has been received from different sources.

28 India and the World

INDIA'S external relations were guided by well-established principles viewing its foreign policy as an integral part of the larger effort of building the nation's capabilities : through economic development, strengthening social well-being and the quality of life, and of protecting India's sovereignty, territorial integrity and security, not only in its defence and economic aspect, but in the widest sense of the term.

INDIA'S NEIGHBOURS

India remained deeply concerned with the continuation of the civil war in Afghanistan principally on account of the intransigence of the Taliban and remained firm in its belief that there can be no military solution to the Afghan problem and that Afghanistan's independence, sovereignty, unity and territorial integrity must be preserved.

India's multifaceted relations with Iran continued to grow. As a part of continuing high-level interaction between the two countries, External Affairs Minister had a fruitful meeting with Dr Seyed Kamal Kharrazi, Foreign Minister of the Islamic Republic of Iran in New York on 23 September 1999 during which all bilateral, regional and international issues of mutual interest were discussed. The meetings on various issues of common interest were held in New Delhi and Tehran following the Foreign Secretary's visit to Tehran.

To India's endeavour to take relationship with Pakistan in a positive direction, as witnessed by the first round of the composite dialogue process in October- November 1998 and followed up by the historic initiative of the Prime Minister of India to visit Lahore in February 1999, Pakistan responded by its premeditated aggression and armed intrusion in the Kargil sector of Jammu and Kashmir. This not only betrayed India's trust but also brought forth Pakistan's abiding hostility towards India. Pakistan's intrusion across the Line of Control (LoC) involved both Pakistan Army regulars as well as highly trained, well armed and motivated mercenaries under the management and control of the Pakistan Army. The objective of the intrusion was to take control of the mountain heights in an area of great strategic significance to India. The Indian armed forces began *Operation Vijay* on 26 May 1999 to repel Pakistan's armed intrusion. The Indian forces compelled Pakistan to withdraw its troops in two months' time. Throughout its military operation, India observed the sanctity of the LoC; a policy highly appreciated by the international community.

Pakistan violated the 1991 Agreement between India and Pakistan on Prevention of Airspace Violations. On 10 August 1999, a Pakistan Navy maritime surveillance-cum-combat *Atlantique* aircraft intruded repeatedly into Indian territory in the Rann of Kuchch area and was shot down by the Indian Air Force fighters when it failed to heed to their signals to land. On

11 August 1999 Pakistan targeted three Indian helicopters ferrying journalists to the crash site.

An Indian Airlines aircraft, *IC-814*, was hijacked to Kandahar by five persons on 24 December 1999. The Government secured the safe release of passengers, crew and the aircraft in exchange for three terrorists, including a Pakistani national. One passenger was brutally murdered by the hijackers. There is firm evidence that the hijacking was engineered by Pakistan and the fundamentalist groups.

Following the military coup of 12 October 1999, Pakistan is now effectively under what amounts to martial law, which has serious implications for India's security interests. Pakistan's violation of the LoC, its brazen disregard for Agreements and continuing sponsorship of cross-border terrorism against India have set back India-Pakistan relations. The onus lies with Pakistan to foster proper environment and inspire confidence for a meaningful interaction between the two countries to start.

India and Bangladesh were mutually keen to promote understanding and to strengthen bilateral relations during the year. The Prime Minister accompanied by the External Affairs Minister, Minister for Railways and Surface Transport and Chief Minister of West Bengal visited Dhaka on 19-20 June 1999 on the occasion of the inaugural run of the bus service from Calcutta to Dhaka. The Bangladesh Minister for Water Resources, Mr Abdur Razzak, visited India in April 1999 in connection with the 33rd session of the Joint Rivers Commission. The Minister for Commerce and Industry of Bangladesh, Mr Tofail Ahmed, visited India for bilateral talks on trade issues from 19-24 May 1999. During the visit of Minister of State for External Affairs to Dhaka, in January 2000, a decision was taken to start a bus service between Agartala and Dhaka. The matters relating to security and border management were also discussed during the year.

India's relations with Sri Lanka continued to be cordial and friendly. India expressed its consistent support for a peaceful settlement of the ethnic conflict within the framework of Sri Lanka's unity, sovereignty and territorial integrity. As a follow-up to the signing of India-Sri Lanka Free Trade Agreement (FTA) in December 1998, talks were held in Colombo and New Delhi and it was decided to operationalise the FTA on 1 March 2000. The India-Sri Lanka Foundation was inaugurated by the Sri Lankan Foreign Minister, Mr Lakshman Kadirgamar in Colombo on 19 November 1999 by way of promotion of cultural and educational ties between the two countries.

India-Maldives relations have been close and friendly. India is committed to cooperation with Maldives in its developmental efforts especially in the human resource and health sectors. During the year, a number of visits were exchanged to strengthen cooperation in education, medicine, meteorology and customs.

India continued a policy of constructive engagement with Myanmar to strengthen the existing ties and diversify areas of contact and cooperation.

General Maunge Aye, Vice-Chairman, State Peace and Development Council and Commander-in-Chief of Myanmar Army, visited Shillong from 7-8 January 2000. Bilateral issues including control of cross-border terrorism, threat posed by religious fundamentalism, trade and economic relations and projects in areas such as power, mining, etc., were discussed. An Agreement on Cooperation in Science & Technology was concluded during the visit of the Minister for Science and Technology of Myanmar to India in June 1999.

Several initiatives were taken to further strengthen our interaction with Nepal, and to consolidate the close and multifaceted cooperation between the two countries. The Foreign Minister of Nepal visited India from 17-19 August 1999 while the Indian External Affairs Minister visited Nepal from 8-11 September 1999. The two Foreign Ministers reaffirmed the commitment of their governments not to allow their respective territories to be used for activities prejudicial to the security of the other. A decision was taken to revive the India-Nepal Joint Commission, expand cooperation in the development of infrastructure including transportation and communications in the adjoining border districts of Nepal and India, exchange information and experience in the field of socio-economic development between the two countries, and set up a Joint Task Force on Flood Control and Flood Forecasting. Major projects being funded by the Government of India in Nepal include the construction of 22 bridges on the Kohalpur-Mahakali sector of the East-West Highway, construction of an Emergency and Trauma Centre at Bir Hospital in Kathmandu, construction of Raxaul-Sirsiya Rail Link, construction of Tanakpur-Mahendranagar Link Road and several other projects under the Mahakali Treaty. The B. P. Koirala Institute of Health Sciences at Dharan and the Maternity and Neo-natal Intensive Care Units at Paropkar Hospital in Kathmandu were assisted by the Government of India. India suspended the operation of Indian Airlines flights to Kathmandu following the hijacking of IC- 814, an Indian Airlines flight on 24 December 1999. The two countries were in touch with each other to fully investigate the hijacking, strengthen security measures and work out modalities to restart Indian Airlines flights to Kathmandu. The flights were resumed from first June. Prime Minister of Nepal paid an official visit to India during first week of August 2000. Both India and Nepal reiterated their determination to work closely to fight the scourge of terrorism.

The relations between India and Bhutan were marked by mutual understanding and respect. Besides the regular assistance under the Five-Year Plan, India is also funding three Mega Projects, *i.e.*, the Tala Hydroelectric Project, the Kurichu Hydroelectric Project and the Dungsum Cement Project. External Affairs Minister visited Bhutan from 8-11 April 1999 and formally handed over the newly renovated Paro Airport Complex, a Government of India assisted project with a funding of more than Rs 23 crore to Bhutan. King of Bhutan Jigme Singye Wangchuk undertook a private visit to India from 24-27 May 1999. India agreed to revise the Chukha power tariff from 1 July 1999.

Regional Cooperation, particularly economic cooperation under the SAARC framework, gained momentum in the first half of the year. India actively participated in the intensive consultations amongst the SAARC countries to evolve a common strategy prior to the WTO Meeting in Seattle. The Terms of Reference for a treaty on the establishment of a South Asian Free Trade Area (SAFTA) were finalised by the Committee of Experts set up at the Tenth SAARC Summit at Colombo. SAARC also began work on harmonizing Quality and Measurement Standards which will facilitate intra-regional trade flows. The quickening of the pace of economic cooperation constitutes a major advance for SAARC and is expected to contribute to the operationalisation of the SAARC Free Trade Area. SAARC Foreign Ministers met on the margins of the 54th Session of the UNGA in New York on 28 September 1999 and discussed the Report of the Group of Eminent Persons (GEP), set up at the Ninth SAARC Summit at Male in May 1997. The 11th SAARC Summit scheduled for 26-28 November 1999 in Kathmandu was postponed because of the military coup in Pakistan on 12 October 1999.

SOUTH EAST AND THE PACIFIC

India's relations with the countries in the South East Asian region have expanded and diversified, more so since the conscious adoption of our 'Look East' policy which sought to strengthen existing linkages and forging new ones with the Association for South East Asian Nations (ASEAN) countries.

India sought to promote a wider and deeper contact with the ASEAN countries in the ASEAN and ARF framework. External Affairs Minister led a delegation to the 32nd ASEAN Post Ministerial Conference (PMC) and the Sixth ASEAN Regional Forum (ARF) meetings held in Singapore in July 1999, and held bilateral meetings with his counterparts from the ASEAN and the ARF member countries. Currently, India is closely collaborating with the ASEAN countries in various fields such as trade and investment, science and technology, tourism, human resource and infrastructure development. The bilateral trade between India and the ASEAN countries has increased from about US \$ 2.5 billion in 1993-94 to \$ 5.36 billion in 1998-99. India hopes to increase trade, both in terms of quantity and value, with the ASEAN countries.

India-Malaysia relations were further strengthened with high-level political exchanges and initiatives in the defence, commercial, economic and cultural fields. A delegation led by Chief Minister of Tamil Nadu visited Malaysia in January 1999. Another delegation was led by Minister of Civil Aviation and Tourism from 8-10 February 1999. From the Malaysian side, Dato Seri Samy Vellu, Minister for Works visited India. Dr Lim Keng Yaik, Malaysian Primary Industries Minister led an economic and technical mission to India in April 1999. Malaysia has emerged as India's largest trading partner (over US \$ 1,891 million two-way trade during 1998-99) among the ASEAN countries as well as a significant foreign direct investor country in India.

India's existing close and friendly relations with Singapore were further strengthened during the year. External Affairs Minister had a bilateral meeting

with his counterpart in Singapore in July. Minister of Power attended the World Economic Forum's East Asia Summit held in Singapore from 18-20 October 1999. Singapore Prime Minister Goh Chok Tong had a meeting with Indian Prime Minister on 15 November 1999 at Durban, South Africa on the margins of CHOGM. Singapore Prime Minister visited India in January 2000. It was agreed to set up two Joint Task Forces for Finance and IT sectors.

Efforts were made for further upgradation of bilateral relations and cooperation with Brunei Darussalam. Our External Affairs Minister held a bilateral meeting with the Foreign Minister of Brunei during ARF/ASEAN PMC meetings in Singapore in July 1999. Indian companies made substantial progress towards forging economic and commercial ties with Brunei in software, information technology, petrochemicals, and civil and electrical projects for construction, supply and consultancy.

The relations between India and the Philippines continued to be cordial and friendly. A bilateral Agreement on Promotion and Protection of Investments was signed in Manila on 28 January 2000.

Relations between India and Thailand were marked by traditional warmth and friendliness. Minister of State for External Affairs visited Thailand in July 1999 and held discussions on matters of mutual concern with Dr Sukhumbhand Paribatra, Deputy Minister of Foreign Affairs. Minister of Science, Technology and Environment of Thailand participated in the second Ministerial Conference on Space Applications in New Delhi in November 1999. A delegation led by the Lok Sabha Speaker attended the Seventh General Assembly of Asia Pacific Parliamentarians' Conference on Environment and Development at Chiangmai.

Bilateral relations between India and Indonesia continued to progress satisfactorily. Indonesian President Mr Abdurrahman Wahid visited India from 8-9 February 2000. During the visit, an MOU on Cooperation in the Field of Tourism was signed. Agreements on counter trade between MMTC and KADIN (the Indonesian Chamber of Commerce) and a railway project between IRCON International (India) and Mitra Jaya Group (Indonesia) were also signed.

India and Laos continued to enjoy friendly and cordial relations. Dr Siene Saphantong, Lao Minister of Agriculture and Forestry visited India in May 1999. In pursuance of a Credit Agreement signed in January 1999 with Lao PDR, for a soft credit of US \$ 2 million to Laos a Banking Agreement was executed.

India continued to maintain friendly and warm relations with Cambodia. Cambodian PM Hun Sen visited India from 17-19 February 2000 when two agreements on setting up of a Joint Commission on Trade and on Cultural Exchange Programme were signed.

The President of Vietnam, H.E. Mr Tran Duc Luong, with a delegation,

paid a State visit to India from 1-5 December 1999. Instruments of Ratification of the Bilateral Investment Promotion and Protection Agreement signed in 1997 were exchanged, an MOU on setting up Software Human Resource Development Centres in Hanoi and Ho Chi Minh City and an Agreement on Cooperation between the Foreign Service Institute of India and the Institute of Foreign Relations of Vietnam were signed. A soft credit of US \$ 15 million (Rs 600 million) was extended to Vietnam. The overseas exploration wing of Oil and Natural Gas Corporation-ONGC Videsh Limited, signed two agreements on 29 April 1999 marking the take off of the \$ 1.5 billion Vietnam Gas production project.

The Australian Prime Minister John Howard who was on a visit to India in the second week of July 2000, promised to inaugurate a new phase of bilateral engagement. His visit marked a sustained diplomatic effort by Australia to revive Indo-Australian ties that suffered a set-back after India's nuclear tests in May 1998.

India and Papua New Guinea continued to maintain close and friendly relations. The Prime Ministers of both countries met during the retreat at the CHOGM in Durban and discussed bilateral and international matters.

After a gap of nearly nine years, the Indian High Commission was reopened in Suva on 2 March 1999. Shri Mahendra Pal Chaudhry became the first Prime Minister of ethnic Indian origin in the history of independent Fiji. The new Fiji Government announced its decision to open a resident diplomatic mission in New Delhi. Shri Chaudhry was subsequently deposed. Commodore J.V. Bainimarama become Fiji's new military ruler.

Bilateral relations were consolidated following New Zealand's strong reaction to Pokhran-II. The Second Protocol to the Double Taxation Avoidance Convention (DTAC) seeking flow of technology, trade and services between India and New Zealand was signed in New Delhi on 21 June 1999.

Bilateral relations with Pacific Islands have been cordial. India had co-sponsored the General Assembly resolution admitting Tonga to the membership of the United Nations. On the reopening of the Indian High Commission in Suva, Fiji, the concurrent accreditation of the Cook Islands, Tuvalu and the Kingdom of Tonga have been shifted to the Indian High Commission in Suva from HCL, New Zealand, and the concurrent accreditation of Solomon Islands and Vanuatu to the Indian High Commission in Port Moresby (Papua New Guinea) from Canberra (Australia).

EAST ASIA

India sought friendly, neighbourly and mutually beneficial relations with China. The External Affairs Minister visited China on 14-15 June 1999 for talks with Foreign Minister Tang. The two sides agreed to jointly celebrate the 50th anniversary of the establishment of diplomatic relations (1 April 2000), promote Confidence Building Measures, commence a security dialogue and

expand economic and trade relations. At the Eleventh Meeting of the Joint Working Group on Boundary Question held in Beijing from 26-27 April 1999, both sides reiterated their commitment to the Agreement on the Maintenance Peace and Tranquillity along the Line of Actual Control (LOAC) in the India-China Border Areas (1993) and the Agreement on Confidence Building Measures in the Military Field along the LOAC in the India-China Border Areas (1996).

Functional exchanges in trade and commerce, environment, industries, power, iron and steel, science & technology, aeronautics, medicine, media, culture and sports took place during the year. At the joint invitation of the Governments of China and Portugal, the Minister of State for External Affairs represented India at the Macao's handing over to China on 19-20 December 1999. The bilateral trade in 1999 amounted to US\$ 1.987 billion, an increase of 3.4 per cent over 1998.

India remained committed to friendly and mutually beneficial relations with Japan. External Affairs Minister visited Japan from 23-26 November 1999. He met Prime Minister K. Obuchi and held talks with Japanese FM Yohei Kono and other ministers. Both sides agreed to encourage exchanges in science and technology, defence, investment and culture and to initiate a security dialogue as well as to constitute the Japan-India Wisemen's Committee. The first ever visit by an Indian Defence Minister to Japan took place from 10-14 January 2000. During the visit, it was decided to commence a regular security and defence related dialogue and also to expand the exchange, education and training of defence personnel. From January - October 1999, India's trade with Japan was US \$ 3,883 million. From January-August 1999, Japanese investments in India amounted to Rs 13,027.7 million (US \$ 310.2 million).

Relations with the Republic of Korea (ROK) continued to be marked with cordiality and understanding. A number of high-level visits and exchanges took place promoting better economic and cultural ties. The total volume of two-way trade with ROK in 1999 was US \$ 2.13 billion.

India's relations with the Democratic People's Republic of Korea (DPRK) continued to be friendly. Dr Kim Su Hak, Minister of Public Health, visited India from 24-28 September 1999 to discuss Inter-Country Cooperation in priority areas such as primary health care and health sector reform. Prof (Dr) Ri Kwang Ho, President, Academy of Sciences of DPRK attended the ESCAP Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific from 15-20 November 1999 in New Delhi. On 25 June 1999 a North Korean ship *Ku-Wol San* carrying machinery parts and blueprints for manufacture of missiles was detained in Kandla. Appropriate action is being taken in the matter.

Vice-President visited Mongolia from 25-29 August 1999 to renew the traditional historic and friendly relations between the two countries. During

the visit, the two sides agreed to further expand and diversify the relations into new areas of cooperation.

CENTRAL ASIA

Both bonds of history and geo-strategic location of the Central Asian States (CAS) in an extended neighbourhood make India's relations with them a matter of priority. The region has profound strategic and economic importance for India.

Efforts to strengthen relations with Azerbaijan were continued. A resident Indian Mission in Baku started functioning with effect from 1 March 1999. The Minister for External Affairs had a meeting with the Foreign Minister of Azerbaijan in September 1999 in Almaty during the Conference on Interaction and Confidence Building Measures in Asia (CICA) Ministerial Conference.

Traditionally warm and cordial relations with Kazakhstan progressed smoothly. Indo-Kazakh Joint Commission meeting was held in Almaty in March/April 1999. Mr Karibzhanov, Deputy Prime Minister and Minister of Agriculture of Kazakhstan, visited New Delhi in March 1999 in connection with a Kazakh Investment Conference. The Deputy Prime Minister and Minister of Foreign Affairs of Kazakhstan visited India in August 1999 and signed a Treaty on Mutual Legal Assistance in Criminal Matters and a Protocol on Visa-free Regime for Diplomatic and Official passports.

Indo-Kyrgyz relations witnessed positive developments. The Kyrgyz President, Askar Akaev paid a state visit to India in April 1999. An agreement on avoidance of double taxation, treaty on mutual legal assistance in criminal matters, cultural exchange programme for the years 1998-2000 and a MOU on civil aviation matters were signed. Vice-President, Shri Krishan Kant was the Chief Guest at the Kyrgyz Independence Day celebrations. Foreign Secretary of Tajikistan visited New Delhi for consultations with Secretary (East) in April 1999. An Indian company is establishing a five-star hotel in Dushanbe, the foundation stone of which was laid by President Rakhmanov in September 1999.

Relations with Turkmenistan progressed well. During the visit of Minister for External Affairs to Turkmenistan in May 1999 a protocol on development of cooperation was signed. It was also agreed to set up a joint working group for the energy sector.

India-Turkey relations witnessed significant progress with high level political exchanges and important initiatives in the commercial, economic and cultural fields. Following the earthquakes in Turkey in August 1999, India sent humanitarian assistance.

Relations with Uzbekistan were enhanced. The Minister for External Affairs visited Uzbekistan in May 1999. During the visit, a bilateral investment protection agreement (BIPA) was signed. Secretary (East) visited Tashkent in

September 1999 for foreign office consultations. Scientific and technological cooperation with Uzbekistan continued.

THE GULF

India deeply values its close historical ties and traditional cultural affinities with the Gulf countries. The high-level visits were continued, which contributed substantially to further expanding and consolidating bilateral relations in the political, economic and cultural fields.

The warm and cordial relations between India and Bahrain were further strengthened, particularly in the economic field. A delegation of the Confederation of Indian Industry (CII) visited Bahrain in April 1999 to explore the possibilities of investment in Bahrain. The Birla Institute of Technology has established its first overseas branch in Bahrain.

India's traditional ties with Iraq witnessed an upswing during the year. The 13th Session of the Indo-Iraq Joint Commission was held in Baghdad from 27-29 July 1999. Under the Indian Technical and Economic Cooperation (ITEC) Programme a team of medical specialists visited Iraq in July 1999 to assist Iraqi doctors in handling critical cases. Bharat Heavy Electricals Limited (BHEL) was awarded a contract for supply of gas turbines by the Government of Iraq.

India's relations with Kuwait continued to be marked by warmth and closeness. A Kuwaiti delegation, representing the National Committee for Missing Persons and POW's Affairs, headed by Dr Sultan Al-Khalaf, Deputy Director General, Animal and Fish Resources, visited India from 10-13 August 1999. The two countries added a new dimension to their relations by signing a MoU to hold regular foreign office consultations on international issues of mutual interest.

India and Oman have close historical ties and deep cultural affinities. The Extradition Treaty between India and Oman was signed on 13 April 1999 in Muscat. The Instruments of Ratification in respect of the Agreement to Combat Terrorism and Organised Crime were exchanged between the two countries in Muscat in May 1999. A team from the National Remote Sensing Agency visited Oman from 28 April 1999 for aerial photography of the Al-Masarrat Water Supply Project in Oman. BHEL got a power station extension project in Oman worth about US \$ 27 million. The Minister for Chemicals and Fertilisers visited Oman from 21-24 November 1999 and discussed cooperation in the proposed Indo-Oman joint venture Fertiliser Project and the Bharat-Oman Refinery Project. External Affairs Minister visited Oman from 21-23 January 2000 to participate in the Extra-Ordinary Meeting of the Council of Ministers of IOR-ARC.

The traditionally warm and friendly relations between India and Qatar strengthened with the State visit of the Emir of Qatar to India from 6-8 April 1999. During the visit, six bilateral agreements/MOUs were signed which

included Bilateral Investment Promotion and Protection Agreement, Double Taxation Avoidance Agreement and an MOU on Foreign Office Consultations among others. An Indian Cultural Week was organised in Doha by the Indian Embassy from 21-30 April. On 31 July 1999 Ras Gas of Qatar and Petronet of India signed the final Sale & Purchase Agreement in London for supply of 7.5 metric tonnes per annum of Liquefied Natural Gas to India over a period of 25 years starting from 2003. The Oil and Natural Gas Corporation Limited (ONGC) concluded a MOU with Mannai Corporation QSC on 13 October 1999.

India's traditional relations with Saudi Arabia continued to grow steadily. The Bilateral trade between the two countries during 1998-99 amounted to US \$ 2.6 billion. India's exports to Saudi Arabia during the year were worth US \$ 766 million, an increase of 9 per cent over the previous year. There are more than 25 Indo-Saudi joint ventures in different fields in the Kingdom. The Indian population in the Kingdom is about 12 lakh and remittances of the Indian work-force is around \$ 2 billion per annum. A total of 98,072 Indian pilgrims performed Haj in March 1999. A 30-member Haj Goodwill Delegation visited Saudi Arabia during the Haj period.

Bilateral cooperation between India and the UAE in various fields was further strengthened. Minister of External Affairs visited the UAE on 5 April 1999 and met the UAE Minister of State for Foreign Affairs, Sheikh Hamdan Bin Zayed Al Nahyan. Minister of External Affairs welcomed the proposed entry of the UAE into the IOR-ARC. The UAE Minister for Justice, Islamic Affairs and Awqaf visited India from 25-26 October 1999. During the visit, an Extradition Treaty, a Treaty on Mutual Legal Assistance in Criminal Matters and a Treaty on Juridical and Judicial Cooperation in Civil and Commercial Matters were signed. A delegation of the National Association of Software and Services Companies (NASSCOM) visited the UAE in May 1999 to promote Indian capabilities in Information Technology.

The ties of friendship and cooperation between India and Yemen continued to grow further during the year. Mr Mohammed Al-Khadem Al-Wajeih, Minister of Oil and Mineral Resources led a delegation to India in June 1999. The two sides discussed the possibility of signing an agreement for exporting oil and natural gas to India from Yemen. The third session of the Indo-Yemen Joint Committee for Economic, Scientific and Technical Cooperation took place in Sana'a from 18-20 July 1999. Besides the Agreed Minutes of the Joint Committee, two agreements, namely, the Cultural Agreement and the Air Services Agreement were signed. Around 3,500 pilgrims from the Bohra community visited Yemen during August 1999.

WEST ASIA AND NORTH AFRICA

The West Asia and North Africa region represents India's extended neighbourhood. India has continued to support the realisation of a just, comprehensive and lasting peace in the region, based on relevant United

Nations Security Council resolutions and the principle of 'Land for Peace'.

Relations with Algeria continued to remain warm and close. A delegation from the Oil and Natural Gas Commission and the Gas Authority of India visited Algeria from 11-14 April 1999 to promote cooperation in the hydrocarbon sector. During the visit of Algerian Minister of Energy and Mines Dr Youcef Yousefi to India in June 1999 a joint working group was constituted to oversee cooperation in the hydrocarbon sector. An eight-member Algerian Defence delegation led by General Bendimerad Mohamed visited India from 14-23 November 1999 to explore possibilities of cooperation in defence field.

Bilateral relations with Egypt were further diversified and strengthened. The first session of the Indo-Egyptian Joint Business Group was held on 17 May 1999 in Cairo. Egypt's Minister of Trade and Supply Dr Ahmed Goweli led the Egyptian delegation to the G-15 Ministerial meeting held in Bangalore from 16-18 August 1999. Minister of External Affairs met Egypt's Minister of Foreign Affairs Amre Moussa on the margins of the 54th United Nations General Assembly on 20 September 1999 in New York.

Relations with Israel continued to grow satisfactorily. Principal Secretary to the Prime Minister visited Israel from 2-4 September 1999. His visit was part of the ongoing diplomatic dialogue between India and Israel. Deputy Speaker of the Knesset Ms Naomi Chazan visited New Delhi on 23-24 November 1999.

Relations with Jordan continued to be close and friendly. Vice-President Shri Krishan Kant represented India at the funeral of King Hussein in Amman on 8 February 1999. During his stay in Amman, Vice-President called on King Abdullah II. A Double Taxation Avoidance Agreement was signed between India and Jordan on 20 April 1999.

Bilateral relations with Lebanon continued to remain cordial. India stands for the restoration of sovereignty, unity and territorial integrity of Lebanon and for the extension of the authority of the Lebanese State over the entire territory of Lebanon in consonance with the United Nations Security Council Resolution 425. An Indian delegation visited Beirut from 9-12 August 1999 to participate in the meeting of the Asian Group of G-77.

Relations with Libya continued to be marked by understanding and cooperation. Former Prime Minister Shri Inder Kumar Gujral visited Libya from 10-14 November 1999 and called on President Col. Muammar Al-Qathafi and Foreign Minister Mr Omar Mustafa Muntassir.

Bilateral relations with Morocco were further strengthened and consolidated. A Memorandum of Understanding between the Confederation of Indian Industry and its Moroccan counterpart organisation for creation of a Joint Business Council was initialed. Vice-President visited Morocco from 25-26 July 1999 to represent India at the funeral of late King Hassan II. Prime Minister of Morocco Abderrahmane El Youssoufi paid a State visit to India

from 21-25 February. An Agreement on Merchant Shipping and Related Maritime Matters, MOU in the field of Geology and Mining and an Agreement between Prasar Bharati, Doordarshan and Radiodiffusion Television Marocaine (RTM) were signed. Indo-Moroccan joint venture fertilizer project, one of India's largest joint venture projects abroad, commenced production in August 1999.

India continued to extend its consistent and unwavering support to the Palestinian cause. It also continued to give material and technical support to the Palestinian people. High-level political contacts between the Indian and Palestinian leadership were maintained. President Yassir Arafat came to India on a working visit from 9-10 April 1999. Senior officers of Ministry of External Affairs visited Gaza in May 1999 for a review meeting of Indian-aided Projects.

India continues to support UN efforts to restore peace and normalcy in Somalia and Western Sahara.

Foreign Minister of Djibouti Mr Ali Abdi Farah called on the External Affairs Minister on the sidelines of the United Nations General Assembly in New York on 21 September 1999. It was followed by the External Affairs Minister's meeting with President of Djibouti Mr Ismail Omar Guelleh.

Relations with Sudan were strengthened. India reiterated its support for Sudan's territorial integrity and sovereignty. Minister of State for External Affairs met Foreign Minister of Sudan Dr Mustafa Osman Ismail on 29 September 1999 on the sidelines of the 54th United Nations General Assembly and discussed matters of mutual interest.

Relations with Syria continued to remain friendly and warm. A three-member Syrian defence delegation led by the Deputy Chief of Army Staff Lt General Abdul Rahman Sayad, participated in DEFEXPO INDIA'99 held in New Delhi from 12-16 October 1999. Minister of State for Information & Broadcasting, visited Syria from 28-30 January 2000.

Bilateral relations with Tunisia continued to progress satisfactorily. External Affairs Minister met Foreign Minister of Tunisia Mr Said Ben Mustapha on 24 September 1999 on the margins of the 54th United Nations General Assembly. During the visit of the Tunisian Minister of International Cooperation and Foreign Investment to India in November 1999, the Export-Import Bank of India signed a MoU with two Tunisian Banks to jointly promote trade and industrial collaboration between Tunisian and Indian companies.

The regular dialogue with the League of Arab States was maintained in Cairo and in New Delhi.

AFRICA (SOUTH OF SAHARA)

The Government of India continued its policy of consolidating the gains of

almost five decades of close ties of friendship with the countries in the sub-Saharan Africa.

Indo-Mauritian relations continued to be excellent. Cooperation in education, science and technology, defence, commerce and industry was further intensified. India is now the third largest supplier of goods to Mauritius. The India Trade Promotion Organisation organised an exhibition of Indian products -INDEXPO.

Telecommunications Consultants (India) Limited successfully completed their projects in Madagascar for installation of optic fibre and radio transmission network. Two Indian Naval ships, *INS Krishna* and *Sujata*, called on the Malagasy port of Diego Suarez on a goodwill visit in October 1999.

The close friendship between India and Seychelles saw visible manifestations during the year by the visits of two Naval Ships from India in October and November 1999, and a visit to India by a 7-member delegation from the Association of Small Businessmen of Seychelles in July.

India's traditional political relations with Ethiopia continued to grow. The Government of Ethiopia reiterated its interest in our small and medium scale industries and in the fields of dairy, agriculture and agro-industries. A Cultural Exchange Programme was signed with Ethiopia in May.

India has developed political, commercial and economic interests with Kenya, Tanzania and Uganda. Kenya showed a constructive understanding of India's position on restructuring of the UN Security Council, disarmament and the need for an equitable world economic order and also desired to improve bilateral relations in the fields of small scale industries, dairy, agriculture and tourism. The Vice President, Shri Krishan Kant, led the Indian delegation at the funeral of Tanzania's former President, Julius Nyerere in October 1999. The Confederation of Indian Industry organised a 'Made in India' show in Dar-es-Salaam in August 1999. India has emerged as Tanzania's largest trading partner. Uganda's Minister of State for Housing, led a delegation to participate in the International Exhibition 'Build India 99' and 'Environment India 99' held in New Delhi from 13-16 April 1999. Gujarat Communications and Electronics Limited bagged a US\$ 3.5 million project for setting up a digital Video/Audio Earth Station at Kampala.

Subsequent to signing a MOU with the Southern African Development Community (SADC) India continued its efforts to improve bilateral relations with SADC and its member countries.

Vice-President Shri Krishan Kant attended the ceremony when Thabo Mbeki was sworn in President of South Africa on 16 June 1999. The new South African leadership has emphasized the importance of giving greater economic content to the 'Strategic Partnership' with India. There has been a 20-fold increase in India's trade with South Africa to nearly US \$ 1.7 billion. Cooperation in the defence sector is also growing.

India's bilateral relations with Namibia have been marked by considerable warmth and understanding. India's commitment to the task of Namibian reconstruction continued during 1999. Namibian Foreign Minister, Theo-Bin Gurirab visited India in June 1999. During President Sam Nujoma's visit in July 1999, an agreement to extend an EXIM bank's credit-line of Rs 20 crore to Namibia and a MOU between Namibia and Hindustan Aeronautics Limited, Bangalore were signed.

The presidential election in Botswana once again confirmed its credentials as a democratic nation, thus providing a relevant framework for further growth of Indo-Botswana relations. Some Indian companies are now trying to enter the consultancy market in Botswana. The Botswana Government sponsored two business level delegations to India in May and December 1999 and a number of projects are under consideration.

India and Zimbabwe continued to cooperate closely, bilaterally and in multilateral fora. Zimbabwe Deputy Minister for Industry & Commerce, Mr Obert M. Mpofo participated in the G-15 Ministerial meeting on the WTO at Bangalore in August. He signed an MOU with HMT for setting up a watch assembly unit in Zimbabwe.

Indo-Zambian bilateral relations continued to retain their traditional cordiality during this year. In April 1999, RITES bagged a contract in the field of infrastructure. Various Indian companies are also pursuing the possibility of their involvement in the power sector in Zambia. The Zambian Deputy Minister of Finance visited India to discuss the issue of blocked funds that Zambia owes to India.

Despite the ongoing civil war in Angola, relations between Angola and India continued to be friendly. An agreement to set up an India-Angola Joint Commission has been approved by both sides.

The return of democracy to Nigeria, was a matter of happiness to India. President Olusegun Obasanjo was the Chief Guest at the 50th Republic Day celebrations. Nigerian Minister of Commerce Mustapha Bello attended the G-15 ministerial meeting on WTO at Bangalore in August 1999.

The Minister of Education of Cameroon Charles Etoundi visited India in July 1999 and met the Minister of Human Resource Development.

Bilateral relations between India and Ghana remained on an even keel during the year. The two countries decided to hold annual bilateral consultations.

After a decade a Kenyan Foreign Minister formally visited India from 8-12 December 1999. An agreement to establish a Joint Commission at the ministerial level was signed during the visit.

India's relations with Mozambique, Senegal, Burkina Faso and Cote D'Ivoire saw steady progress. India continued to provide assistance to African countries.

EUROPE

EASTERN EUROPE

Relations between India and the Russian Federation have been historically close, friendly and time tested. With the countries of East and Central Europe, India has traditionally maintained ties based on goodwill, friendship and close cooperation. The year saw further consolidation and diversification of these ties to mutual benefit.

India sought to raise the level of its bilateral ties with the Russian Federation to that of a strategic partnership. The tradition of bilateral exchange of visits at all levels continued during the year. External Affairs Minister visited Russia from 23-25 May 1999 and had detailed discussions on bilateral, regional and international issues with Russian Foreign Minister Igor Ivanov. At a joint press conference, the Russian Foreign Minister reiterated Russia's support for India's candidature for permanent membership of the UN Security Council. During the visit of the Russian President Vladimir Putin to India in the first-week of October 2000, the two countries signed a Declaration on Strategic Partnership, agreeing to strive for a multipolar world order.

The first Resident Ambassador of India to the Republic of Armenia arrived in the Yerevan in October 1999. At the same time, the first resident Armenian Embassy to India was opened in mid-October 1999.

Mr Hynek Kmonicek, Deputy Minister of Foreign Affairs of the Czech Republic visited India on 20 August 1999. The Chief of Army Staff paid a goodwill visit to the Czech Republic from 15-19 May 1999.

Secretary, Department of Steel, visited Ukraine from 25-29 July 1999. He had meetings with the First Deputy Minister of Industrial Policy, Deputy Minister of Industrial Policy, and Deputy Minister of Foreign Affairs of Ukraine. External Affairs Minister and Foreign Minister of Ukraine had a meeting in New York on 28 September 1999 on the margins of the 54th UNGA.

The first session of the Working Group on Electronics and Information Technology under the aegis of the Indo-Bulgarian Joint Commission for Economic, Scientific and Technical Cooperation was held in Sofia from 21-23 July 1999. An MOU on the Establishment of the Working Group and a Protocol were signed during this meeting. Secretary (West) visited Sofia in September 1999. The Instruments of Ratification of the Indo-Bulgarian Bilateral Investment Protection Agreement were exchanged during the visit.

Minister of State (External Affairs) and Mr Janusz Stanczyk, Under Secretary of State for Foreign Affairs of Poland met in New York on 28 September 1999 on the margins of the 54th UNGA. The Chief of Army Staff paid a goodwill visit to Poland from 11-15 May 1999.

The Foreign Minister of Hungary, Dr Janos Martonyi visited India from 30 October - 1 November 1999 and held discussions with External Affairs

Minister on bilateral, regional and international issues. The Chief of Air Staff paid an official visit to Hungary from 25-28 October 1999.

Mr Radu Berceanu, Minister of Industry and Commerce of Romania, visited India from 13-17 November 1999. During the visit, the 14th Session of the Indo-Romanian Joint Commission and the Seventh Session of the Indo-Romanian Joint Business Council were simultaneously held in New Delhi from 15-16 November 1999. A Protocol of the Joint Commission Meeting and an MOU on Cooperation between the EXIM Banks of India and Romania were signed.

Mr Marian Tomasik visited India on 12 May 1999 as a Special Envoy of the Slovak Foreign Minister. He called on Minister of State for External Affairs and Secretary (West).

The Government of India has been closely monitoring the developments in the Federal Republic of Yugoslavia (FRY), specifically in Kosovo since late last year. India reiterated that the sovereignty and territorial integrity of the international borders of the FRY were inviolable. India urged that the crisis should be resolved through peaceful means and called for commitments to the UN charter in this regard.

Secretary (West) visited Bratislava from 13 - 14 December 1999 for Indo-Slovak Foreign Office Consultations and held discussions with the Director General in the Slovak Foreign Office on bilateral, regional and international issues.

WESTERN EUROPE

Western Europe is a region of considerable importance to India both politically and economically. The European Union (EU) is India's largest trading partner and the second largest source of approved foreign investment. India has traditionally maintained close and friendly relations with the EU as well as with individual countries in the region.

India's relations with France gained momentum over the year. External Affairs Minister visited France on 26-27 May 1999 for bilateral talks and to attend the OECD Ministerial Conference. The visit provided an opportunity to place matters relating to the Kargil developments in perspective. From the French side Mr Claude Allegre, Minister for Higher Education, Research and Technology visited India in November 1999. Also Mr Louis Besson, French Minister for Public Works, Housing and Transport; and Mr Francois-Poncet, Co-Chairman, Indo-French Initiative Forum visited India in December 1999. Two rounds of talks were held under the Indo-French Strategic Dialogue in January and July 1999. The Indo-French Initiative Forum held meetings in February and September 1999. The Indo-French Joint High Committee on Defence held its second meeting on 5-6 July 1999. The Fourth Meeting of the Indo-French Forum was held in New Delhi on 14-15 February 2000. Mr Hubert Vedrine, French Foreign Minister visited India from 17-18 February 2000. The

13th Session of the Indo-French Joint Commission for Cooperation in Culture, Education and Science was held on 9-10 March 2000. The France-India 2000 exhibition was held on 6-10 December 1999.

India-UK bilateral relations during the year were characterised by a mutual desire to strengthen political and commercial relations on the basis of our traditional linkages. Visits of senior British Ministers including Ms Patricia Hewitt, Secretary of State for Economy (February), Mr John Prescott, Deputy Prime Minister and Secretary of State for Environment and Transport (4-12 March 2000 and 3-8 December 1999), Ms Clare Short, Secretary of State for International Development (22-28 March 2000) and Mr Peter Hain, MOS for Foreign and Commonwealth Affairs (17-19 November 1999) have allowed for a mutually beneficial dialogue spanning across various levels and areas. Institutional level cooperation in the defence sector was resumed. Mr Stephen Byers, Secretary of State for Trade and Industry during his visit to India from 6-12 January 2000 announced that the UK hopes to achieve a target of £5 billion (Rs 35,000 crore) a year for Indo-British trade. External Affairs Minister visited the UK from 13-14 January 2000 and exchanged views with Mr Robin Cook, Secretary of State for Foreign and Commonwealth Affairs, Mr John Prescott, Deputy Prime Minister and Mr Geoffrey Hoon, Secretary of State for Defence. External Affairs Minister's extensive discussions allowed for a review of bilateral relations, and also covered issues of disarmament, international security, international terrorism and regional developments. Mr Keith Vaz, Minister of State in the Foreign and Commonwealth Office visited India from 31 January-5 February 2000.

Interaction between India and Germany took place at all levels. Germany was India's largest trade partner in Europe and second largest worldwide, with a bilateral trade of around DM9 billion and a major technology and investment source with total approved investments of over Rs 64 billion. However, economic relations witnessed a downturn in the year with a slump in bilateral trade. External Affairs Minister's visit to Germany on 30 September-1 October 1999 facilitated detailed discussions with German President Rau and Vice-Chancellor & Foreign Minister Fischer on issues of bilateral, regional and multilateral importance. Prof Dr Klaus Gretschmann, Director-General, Department of Economic & Financial Affairs, and Personal Representative of Chancellor Schroeder visited India on 19-21 September 1999 and had useful interaction with Indian officials as well as with the Indian business community. The high-level Indo-German Consultative Group held its eighth meeting on 13-14 November 1999 in Bangalore.

Relations with Austria entered into a new phase with the first Head of State level visit between India and Austria. The President of India visited Austria from 7-11 November 1999 and exchanged views with the Austrian President, Thomas Klestil and the Federal Chancellor, Viktor Klima. During the visit, the Double Taxation Avoidance Agreement and the Bilateral Investment Protection and Promotion Agreement were signed. The Indo-

Austrian Joint Commission met in Vienna from 14-15 October 1999 to renew bilateral trade and commerce.

External Affairs Minister visited Italy from 11-12 January 2000 and held wide-ranging talks with Italian Foreign Minister Lamberto Dini. Besides reviewing bilateral relations in the political and economic field, they discussed international terrorism and other issues of mutual concern. India's US\$ 2 billion annual bilateral trade with Italy constitutes nearly three per cent of India's global trade and Italian investments in India have reached US\$ 700 million. Prime Minister visited Italy during last week of June 2000 and discussed regional and international issues with the President and the Prime Minister of that country. Italy appreciated India's concern on cross-border terrorism and expressed support for our draft convention on International Terrorism.

India continues to enjoy excellent political relations with Spain. The Minister of Industry, Commerce and Tourism of the Province of Catalunya (Spain), Mr Antoni Subira, visited India from 13-14 May along with a business delegation. The President of Catalunya, Mr Jordi Pujol, visited India from 6-8 December 1999 to attend the Indian Economic Summit 1999, organised by the World Economic Forum. In an effort to promote bilateral trade, Spain has been chosen as the partner country for India Expo 2001.

India's cordial relationship with the Vatican was strengthened with the State visit of Pope John Paul II to India from 5-7 November 1999.

The high-point of our relationship with the Netherlands was the visit of Dutch Prime Minister Wim Kok from 20-25 November 1999. The visit facilitated discussions on bilateral relations, regional developments and global issues. Mr Gerrit Ybema, Dutch Minister for Foreign Trade visited India from 9-13 January 2000.

The year witnessed steady progress in bilateral relations with Belgium. External Affairs Minister's visit to Brussels in September 1999 facilitated useful and cordial discussions on bilateral relations, regional developments in Europe and Asia and multilateral issues with the Belgian Deputy Prime Minister and Foreign Minister, Mr Louis Michel. The need to diversify Indo-Belgium commercial relations was emphasised by both sides.

The Fourth Session of the Indo-Greek Joint Economic Commission was held in Athens on 8-9 July 1999. Negotiations on the Double Taxation Avoidance Agreement were also conducted. The first meeting of the India-Greece Joint Business Council was held in New Delhi on 22 November 1999.

The second round of Foreign Office Consultations with Denmark on 25-26 May 1999 in Copenhagen marked a resumption of the stalled political dialogue. Official interaction continued with the visit of Mr C. N. Pedersen, Head of Asia-Pacific Department of the Royal Danish Ministry for Foreign Affairs on 8 September 1999.

The first session of Foreign Office Consultations with Norway in July 1999 enabled discussions on bilateral relations, developments in Europe and other issues. Mr Knut Vollebaek, Foreign Minister of Norway visited India from 7-11 January 2000 with senior officials and a 26-member business delegation. He participated in the CII Partnership Summit in New Delhi.

Foreign Office Consultations with Sweden in Stockholm in May 1999 provided an opportunity for interaction on issues of mutual interest.

Finland maintained a neutral position on the Kargil crisis. Seven Finnish soldiers are stationed in J&K and Rawalpindi as part of the UNMOGIP. The second session of Foreign Office Consultations was held in Helsinki on 8-9 July 1999.

India-Ireland trade showed a consistent growth during this period. A bilateral Agreement for Avoidance of Double Taxation was initiated in Dublin in October 1999.

The relationship with Portugal progressed well. Prof. Fernando Pacheco, Portugal's Secretary of State for Industry and Energy visited India in March 1999 to explore new avenues for bilateral trade and commerce. Prime Minister paid a visit to Portugal during last week of June 2000 and discussed bilateral, regional and global issues with the President and Prime Minister of that country. Portugal endorsed India's legitimate claim for joining the Security Council as a permanent member. India and Portugal signed a Bilateral Investment Protection Agreement (BIPA) during the visit.

India and Switzerland shared a stable commercial relationship during this period. Mr Pascal Couchepin, the Minister of Economy of Switzerland visited India from 15-21 February 2000. During the visit, the Draft Protocol for amending the Double Taxation Avoidance Agreement and exchange the Instrument of Ratification for the Bilateral Investment Protection Agreement were signed.

During the Commonwealth Heads of Government Meeting in Durban from 12-15 November 1999 India reaffirmed its support for sovereignty, unity and territorial integrity of the Republic of Cyprus, and emphasised that the demand for recognition of a separate state in the occupied part of Cyprus is unacceptable.

Bilateral exchanges between India and the European Union (EU) have been intensive in the past year. The India-EU Ministerial Troika held its 12th round of talks in Helsinki on 3 December 1999. The meeting facilitated detailed discussions on issues such as South Asian security and prospects of Europe and Asia in the 21st century. It was decided that an India-EU summit along the lines of EU Summit meetings with countries like the USA, Canada, China and Russia be held at the end of the Portuguese Presidency of the EU in June 1999. The India-EU Joint Commission held its tenth meeting from 14-15 January 1999. The decisions taken to launch an India-EU Think Tank

Network, an India-EU Round Table and an India-EU Summit will further cement India/EU relations. Prime Minister visited Lisbon (Portugal) from 27-29 June 2000 to participate in the first ever summit between India and the European Union. EU extended full support to the India-sponsored Comprehensive Convention on International Terrorism. An agreement for financing infrastructure projects in the field of Civil Aviation was also concluded between India and EU during the visit.

THE AMERICAS

NORTH AMERICA

There was increased dialogue and engagement with the United States of America on a broad range of bilateral, regional and international issues, besides the continuation of the ongoing dialogue on security and non-proliferation issues. Regional developments, particularly Pakistan's armed intrusion in Kargil, the military takeover in Pakistan, the evolving situation in Afghanistan and the problem of terrorism, constituted important elements of constructive dialogue with the US. On the other hand, the US continues to maintain many of the unilateral restrictions it imposed under its domestic law in the wake of the nuclear tests in May 1998. The dialogue on the CTBT, the FMCT, Export Controls and Defence posture has led to some progress in creating a better understanding of India's security concerns by the US. The US took a forthright position regarding Pakistan's armed intrusion in Kargil and called for withdrawal of the intruders from the LoC.

The US Government removed some of the economic restrictions with effect from 27 October 1999. The two sides announced the creation of the Indo-US Joint Working Group on Counter-terrorism to institutionalise their cooperation in combating all forms of terrorism. The Joint Working Group on Counter-terrorism held its first meeting from 7-8 February 2000 in Washington D.C.

The long-overdue trip of an American President materialised when US President Mr Bill Clinton visited India from 20-25 March 2000. The fact that the visit of an American President took place after 22 years underlined its significance and expectations. While the US President visited three countries in South Asia, the focus was primarily on India. The five-day tour covering five cities was one of the most extensive visits undertaken by him to any country. The trip signalled a clear preference for democratic India over military ruled Pakistan as a future US partner in South Asia. President Clinton described the objective of the visit as "strengthening a friendship that indeed is critical to the future of the entire planet". Prime Minister and President Clinton issued a Joint Statement, outlining their vision of the new relationship in the 21st century. The two sides have also agreed on the architecture of a broad based, multi-layered institutionalised dialogue. Prime Minister and the US President will hold regular bilateral 'summits'. There will also be regular dialogue on foreign policy and security matters at the ministerial and official

level. A strong institutional framework for dialogue on economic and commercial issues, counter-terrorism, energy, environment and science and technology has also been created. This dialogue arrangement will help India to increase mutually beneficial co-operation with the US and advance its political, security, economic and scientific interests.

The Indian Prime Minister visited the US in September 2000. During this visit India and the US signed five commercial deals worth \$ 6 billion for projects in power, e-commerce and banking sectors.

In the wake of India's nuclear tests in May 1998, Canada had decided to put political contacts with India "on hold". However, during 1999, Canada took steps to re-establish political contacts with India. A Canadian delegation led by Secretary of State (Asia Pacific), Raymond Chan, visited India from 13-15 May 1999. During the ARF meeting held in Singapore in July 1999, External Affairs Minister had talks with the Canadian Foreign Minister. The two Foreign Ministers also had the occasion to meet during the Durban CHOGM in November. These meetings were utilised by External Affairs Minister to put India's views on the question of the CTBT and Nuclear Doctrine in the right perspective. Indian exports during January-August 1999 stood at Rs 1,858 crore registering an increase of 10 per cent. Indian imports from Canada during the same period stood at Rs 695 crore, up by 21 per cent. A large number of business delegations were exchanged.

LATIN AMERICA AND THE CARIBBEAN

India's relations with the countries of Latin America and the Caribbean (LAC) region have been traditionally problem-free and cordial. The thrust of our policy towards the region is to strengthen and widen the existing relationship and to give more economic content to it. India maintains, at present, 13 resident diplomatic missions and one post in the region. Eleven countries from the area have their resident missions in New Delhi.

As a follow up of the "FOCUS LAC Programme" of the Government of India, participation by Indian Export Promotion Councils and business houses in international exhibitions in the Latin American and Caribbean region as well as visits by trade delegations to the region have helped dissemination of valuable information on Indian commodities and technological advancement. Indian philosophy, yoga and Mahatma Gandhi and his teachings have been a source of inspiration for many in the region. The countries of Latin America and the Caribbean have named more than five hundred institutions, schools, libraries, streets and squares after India and its leaders. As a mark of respect to our Father of Nation, his busts and statues have been installed at important places in a number of countries in the region. Some of the countries in Caribbean region have a substantial population of Indian origin having high regard for their cultural heritage.

The countries in the region are steadfastly promoting regional groupings. There has also been a tendency towards developing a Pan American approach

to national and international issues. Keeping the above in mind India has established institutional relations with regional organisations. India has observer status with the Organisation of American States (OAS), the Association of Caribbean States (ACS) and the Andean Community. India's High Commissioner in Georgetown (Guyana) is concurrently accredited as India's Ambassador to CARICOM. Mechanism for dialogue with the Rio Group has also been established and India is seeking to set up an institutional relationship with MERCOSUR as well.

Former Minister of State for External Affairs led the Indian delegation to the Fourth Session of the Indo-Cuban Joint Commission held in Havana from 5-7 April 1999. A Protocol for Cooperation in Science & Technology between India and Cuba was signed. Cuban Vice-Minister of Foreign Affairs visited New Delhi from 24-27 November 1999.

The second session of the Indo-Surinamese Joint Commission was held from 9-10 April 1999. Secretary (West) visited Colombia, Ecuador, Argentina and Brazil from 5-19 June 1999 for bilateral consultations and for briefing these countries on the Kargil situation. The Minister of External Affairs held meetings with the Foreign Ministers of Brazil, Jamaica, Cuba and Guyana in New York during the UNGA in September in tune with India's policy of high level interaction with the region.

The first meeting of the Joint Working Group set up between India and Venezuela as a mechanism for bilateral cooperation in the energy sector was held in Caracas from 12-15 July 1999. The second Indo-Brazil Workshop of climatic research under the Bilateral Science and Technology Agreement was held in Brazil from 20-24 September 1999. A Memorandum of Undertaking on establishment of diplomatic relations between India and the Dominican Republic was signed in Santo Domingo on 4 May 1999.

A Bilateral Investment Protection Agreement (BIPA) was signed on 20 August 1999 during the visit of Dr Julio Caceres, Secretary Cooperation, Ministry of Economy of Argentina to India. Argentina is the first ever Latin American country with whom India has signed the BIPA. MOUs between the University Merida, Venezuela and the University of Delhi and Jawaharlal Nehru University have been signed.

Dr Hugo Fernandez Faingold, Vice-President of Uruguay visited India from 5-9 December 1999. Two MOUs - one on Foreign Office Consultations and another on Cooperation between the diplomatic academies and an Agreement on doing away with visa requirement for diplomatic and official passport holders of the two countries were signed.

UNITED NATIONS AND INTERNATIONAL ORGANISATIONS

India remained actively involved in all UN matters and breakthrough was achieved in the area of combating terrorism where India's proposal for a comprehensive convention on international terrorism received approval for

initiating discussions in September 2000. On 8 September 2000, the Prime Minister of India addressed the UN Millennium Summit in New York. The General Assembly was held against the backdrop of an ongoing debate on the concept of humanitarian intervention.

SECURITY COUNCIL EXPANSION AND INDIA'S CANDIDATURE

The Open Ended Working Group of the UN General Assembly on the Restructuring of the Security Council wound up its deliberations for the year on 30 July 1999 without making any substantial progress. Several countries addressed the subject of UN expansion and restructuring in their plenary speeches at the 54th UNGA. Among these, Russia, Vietnam, Cyprus, Mauritius and Laos expressed support for India's candidature to an expanded Security Council. The Indian delegation was headed by External Affairs Minister who addressed the Plenary Session on 22 September 1999. The dominant themes of the address were the global menace posed by terrorism, including narco-terrorism, recent developments in Indo-Pak relations and global nuclear disarmament. India's interest in a permanent membership of an expanded Security Council was reiterated.

PEACE-KEEPING

To maintain international peace and security at the behest of the UN, India is actively involved in UN Peace-keeping Operations. Indian troops, military observers, and civilian police personnel are currently serving in Peace Keeping Operations in Western Sahara (MINURSO), Kuwait (UNICOM), Lebanon (UNIFIL), Bosnia and Herzegovina (UNMIBH), Sierra Leone (UNAMSIL), UN mission in Congo and Kosovo (UNMIK).

DISARMAMENT AND INTERNATIONAL SECURITY

India stood firmly on issues related to disarmament and international security in multilateral and regional forums. The visit undertaken by the Prime Minister to Lahore in Pakistan on the inaugural run of the Delhi-Lahore-Delhi bus service, the agreements signed during the visit as well as the visit of the External Affairs Minister to Beijing demonstrate that given the political will the region is capable of responsibly managing the nuclear dimension of bilateral security equations.

The series of bilateral dialogues commenced after the nuclear tests of May 1998 were pursued with the objective of harmonising India's security concerns with international concerns on non-proliferation and disarmament. There is greater appreciation of India's security concerns and the underpinning of restraint and responsibility in India's conduct and policies post May 1998. India projected its national policy on Nuclear Disarmament and was actively involved in the deliberations on a number of resolutions in the First Committee of the 54th United Nations General Assembly held in New York from 11 October- 12 November 1999. India remained actively engaged in the work of the Conference on Disarmament and efforts to reach a consensus on its Programme of Work.

As an original state party to the Chemical Weapons Convention, India endeavoured to discharge, fully and faithfully, its obligations under the Convention. India actively participated in the work of Ad Hoc Group of States Party to the Biological and Toxic Weapons Convention (BTWC) in Geneva during 1999 to negotiate a Protocol on the basis of the agreed mandate. India remains fully committed to the eventual elimination of Anti-Personnel Mines (APLs). India has always refrained from exporting APLs and feels that the individual moratoria on exports should be strengthened by developing a universal agreement that would ban such exports and transfers.

HUMAN RIGHTS

India participated actively in the discussions on human rights issues in the sessions of the UN Commission on Human Rights, the Economic and Social Council and the General Assembly. India called for a constructive, balanced and cooperative approach to human rights issues, development, and international cooperation.

WORLD HEALTH ORGANISATION

The Indian delegation contributed extensively in the deliberations of the World Health Assembly in May 1999. Various decisions including the adoption of budget 2000-2001, the launching of a campaign to enact a Framework Convention on Tobacco Control as also on the Roll back Malaria Programme and the revised drug strategy were taken. India outlined its fast track approach to meet the target of eradicating polio by the end of 2000.

INTERNATIONAL LABOUR ORGANISATION

International Labour Conference held in June 1999 unanimously adopted a Convention supplemented by a Recommendation concerning the prohibition and elimination of the worst forms of child labour. The Indian delegation played a key role in the deliberations and got the poverty dimension of child labour reflected in the text.

FOOD AND AGRICULTURE ORGANISATION

The 30th session of the Food and Agriculture Organisation Conference was held from 12-23 November 1999 in Rome. The Indian delegation was led by Shri S.B.P.B.K. Satyanarayana Rao, Minister of State for Agriculture.

NON-ALIGNED MOVEMENT

Non-Aligned Movement (NAM) Foreign Ministers' meeting was held on the margins of the 54th UNGA on 24 September 1999. It reiterated NAM position on Security Council restructuring, self-determination and terrorism. It expressed deep concern over the new 'Alliance Strategic Concept' adopted by NATO in April 1999 and the negative implications of the development and deployment of anti-ballistic missile system.

COMMONWEALTH

Prime Minister led the Indian delegation to the Durban CHOGM, which had a special theme—'People Centred Development : The Challenge of Globalisation.' Finance Minister led the official delegation to the Commonwealth Business Forum which preceded the CHOGM. The Durban Communiqué condemned the unconstitutional overthrow of the Government in Pakistan and endorsed Commonwealth Ministerial Action Group's recommendations for suspension of Pakistan from the Councils of the Commonwealth.

INTERNATIONAL LAW : DEVELOPMENT AND ACTIVITIES

India participated in various international conferences, meetings, discussions and seminars to thrash out issues on international law and related practices. Notable among them were UNGA discussion on the report of the 51st session of the International Law Commission, 32nd Annual Session of the United Nations Commission on International Trade, Meeting of Legal Experts of the member states of the Indian Ocean Rim-Association for Regional Cooperation (IOR-ARC) and Diplomatic Conference on the Adoption of the Second Protocol to the 1954 Hague Convention for the Protection of Cultural Property.

MULTILATERAL ECONOMIC RELATIONS

India played an active role during the deliberations of various multilateral and regional groupings like the Group of 15 (G-15), Group of 77 (G-77), ASEAN and IOR-ARC. The multilateral circuit was largely dominated by discussions on WTO issues of mutual concern, which were taken up at the third WTO Ministerial Conference at Seattle. India organised a G-15 Ministerial Meeting at Bangalore in August 1999 in preparation for the Third WTO Ministerial Conference at Seattle.

At the Seattle Ministerial Conference of the WTO, India emphasised the need to take remedial action on issues pertaining to asymmetries and inequities in Uruguay Round Agreements on Anti-Dumping, Subsidies, TRIPs, operationalization of Special and Differential Treatment provisions, etc.

India participated in the 32nd ASEAN Post Ministerial Conference (PMC) in Singapore on 27-28 July 1999. ASEAN conveyed appreciation for the support given by India to various activities such as the ASEAN-India Fund and the ITEC.

India remained an active participant in the 'Group of 15' (G-15). G-15 representatives met at the Senior Officials and the Ministerial level on 22 and 24 September 1999 on the margins of the UNGA. G-15 leaders exchanged views on the prospects of adopting a common G-15 position on matters of mutual interest for the Seattle WTO Ministerial Conference (30 November-3 December 1999), the Tenth G-15 Summit in Cairo in May 2000 and the steps taken for initiating a G-15 -G-8 dialogue as decided at the Ninth G-15 Summit in Jamaica. A Government of India delegation participated in the meeting of

G-15 Experts on the 'Financial Crisis and the Reform of the International Financial Architecture' held in Cairo from 23-24 October 1999.

India participated in the South-South forum of G-77 Ministerial Meeting on 24 September 1999 on the margins of UNGA. The G-77 adopted a Ministerial Declaration highlighting various economic and scientific issues.

India participated actively in the grouping of IOR-ARC. External Affairs Minister led a delegation to the Second IOR-ARC Ministerial Meeting held in Maputo, Mozambique from 30-31 March 1999. The meeting decided to expand the Association's membership by admitting five new members, namely Bangladesh, Iran, Seychelles, Thailand and United Arab Emirates and also decided to extend Dialogue Partner status to Egypt and Japan.

India took active interest in the sub-regional grouping called 'Bangladesh-India - Myanmar - Sri Lanka - Thailand Economic Cooperation' (BIMST-EC). A Government of India delegation participated in the BIMST-EC Preparatory Meeting for the Establishment of an Economic Forum (8-9 November 1999) and Trade and Investment Sectoral Committee (10 November 1999) at Dhaka. The Sectoral Committee on Trade and Investment discussed the critical role of information flows within BIMST-EC member countries and investment promotion agencies of member countries. India also hosted a 'World Intellectual Property Organisation' (WIPO) Sub-Regional Forum on Intellectual Property Rights among BIMST-EC countries in New Delhi on 18-19 November 1999.

External Affairs Minister participated in a special dialogue between 'Organisation for Economic Cooperation and Development' (OECD) Council of Ministers and selected non-member countries in Paris on 26 May 1999. In the meeting 29 member countries of OECD discussed policy coherence on a range of key economic issues with important non-member countries.

In the context of South-South cooperation, a Government of India delegation participated in the 11th Session of High Level Committee on the Review of Technical Cooperation among Developing Countries held at New York from 1-4 June 1999. India announced the establishment of a specific Trust Fund for beneficiaries in Africa, Latin America and South Pacific countries.

India participated in the Regional Review Meeting of the Tokyo Agenda for Action - finalized at the Second Tokyo International Conference on African Development - held in Lusaka, Zambia from 23-25 November 1999.

TECHNICAL COOPERATION

India offers technical assistance under the Indian Technical and Economic Cooperation (ITEC) Programme and the Special Commonwealth African Assistance Plan (SCAAP) to 141 developing countries in Asia, Africa, Latin America, Eastern Europe and the Pacific. The assistance has been in the following forms: Training (both civil and military); projects and project-related assistance, consultancy services and feasibility studies; deputation of experts; and study visits of senior officials/decision makers to India.

In 1999-2000, 1,967 slots were allotted for Civil training including 240 slots allotted to 24 Pacific, CARICOM and Central American States. The neighbouring countries were allotted slots under ITEC's Civil Training Programme for the first time. Under Military Training, nominees of friendly countries are imparted training in national institutions in all the three wings of defence services. Projects and project-related assistance was given to member countries. Under the Study Visits Programme, senior decision makers from various partner countries are invited to India for exchange of views and guided exposure to Indian capacities in fields of interest to them. Indian experts are deputed abroad as advisors in response to requests received from Governments of developing countries for advice on technical and developmental subjects.

TRADE AND INVESTMENT PROMOTION

The Central Government and the State Governments took several initiatives to encourage foreign investment inflows, particularly the flow of Foreign Direct Investment (FDI) into India. The major thrust areas included infrastructure development, particularly energy, power, telecom and information technology. Economic news about India was regularly disseminated to all the Missions highlighting major policy decisions and new opportunities. Missions were also encouraged to hold investment promotion seminars and workshops besides extending investment support services. The Investment Promotion and Publicity Division of the Ministry of External Affairs reprinted 10,000 copies of its brochure 'India Means Business - Perspectives'. A specialised web site on the internet, aimed at foreign business community, carrying up-to-date information on policies and procedures for investment in India is to be set up soon.

EXTERNAL PUBLICITY

India's external publicity efforts covered a wider canvas of projecting India through publications, films, direct communication with media and electronic means. The Ministry of External Affairs' website has continuously expanded and gained international recognition for its content and credibility receiving an average of 2.2 million hits per month. Meetings involving leading media personnel, both Indian and foreign were held. The Ministry made regular media arrangements for covering incoming and outgoing high level visits. The Ministry also organised and anchored the inter-ministerial daily briefings to the national and international media on political and military developments following Pakistan's aggression in the Kargil sector of Jammu and Kashmir.

CONSULAR SERVICES AND INDIANS OVERSEAS

PIO CARDS

The six million Indian citizens and over twenty million People of Indian Origin (PIO) residents abroad have collectively evolved into a major instrument for the furtherance of India's foreign policy. The Government launched the PIO

Card Scheme for persons of Indian origin, settled in countries specified by the Government, which, besides introducing a visa-free regime, also confers some special economic, educational, financial and cultural benefits.

CONSULAR SERVICES

Concerned about the problems encountered by Non-Resident Indians/workers especially in the Gulf countries, the Government maintained contacts with the Governments of the Gulf countries, for resolving consular problems and ameliorating the conditions of Indian workers in those countries. In cases of deaths of Indians abroad, assistance continued to be rendered by Indian Missions and Posts for completing the formalities for early dispatch of the mortal remains, maintaining liaison with the local and Indian authorities and keeping the relatives of the deceased informed.

BILATERAL AGREEMENTS

As part of the global endeavour to combat organised crime, consular agreements were negotiated with several countries to provide legal and institutional framework. These agreements include Extradition Treaties, Agreement on Mutual Legal Assistance in Criminal/Civil Matters and Consular Conventions.

During the visit of Kazakh Foreign Minister to India in October 1999 an Agreement on Mutual Legal Assistance in Criminal Matters was signed. In November 1999, an Extradition Treaty, an Agreement on Mutual Legal Assistance in Criminal Matters and an Agreement on Juridical and Judicial Cooperation in Civil and Commercial matters were signed with the UAE. The Extradition Treaty signed with the USA was ratified in July 1999. Extradition Treaties were initialed with Tunisia, Oman, Poland and Mongolia. An Agreement on Mutual Legal Assistance in Criminal Matters and an Agreement on Mutual Legal assistance in Civil Matters were also initialed with Mongolia.

FOREIGN SERVICE INSTITUTE

The Foreign Service Institute continued to enhance mutual understanding between India and the world. The 23th and 24th Professional Course for Foreign Diplomats were held in January and March 2000 respectively. The Tenth Familiarisation Programme entitled 'Introduction to India' for resident foreign diplomats was arranged from 1-5 November 1999. The institute also acted as a forum for interaction between resident Ambassadors and the Indian Foreign Service probationers. The Institute signed Agreements for institutional cooperation with the Diplomatic Academies of Russia, Croatia and Uruguay and the Institute of International Relations, Vietnam.

PROPAGATION OF HINDI ABROAD

Efforts were made by the Ministry of External Affairs for progressive use of Hindi. Documents like bilateral treaties, agreements, MOUs, credentials, speeches of President, PAC paras, Annual Report of the Ministry, Parliament Questions and other documents were issued both in Hindi and English. The

Sixth World Hindi Conference was organised in the United Kingdom from 14-18 September 1999 coinciding with the 50th anniversary of declaration of Hindi as *Raj Bhasha*. Over 700 people participated in the conference and about 300 papers were received for the academic sessions.

Books on Indian art, history, literature, language, religion and philosophy were sent to Indian Missions/Posts abroad for use in libraries and as gifts to educational and voluntary organisations engaged in teaching Hindi. Missions/Posts also promoted Hindi through special classes, film shows, seminars and competitions in Hindi.

CULTURAL RELATIONS

The Indian Council for Cultural Relations continued to establish, revive and strengthen cultural relations and mutual understanding between India and the world. The major activities of the council were : implementation of scholarship programmes for overseas students; deputing visiting professors abroad to teach Indian Language and other related subjects; publication of the quarterly journals and other books; organisation of a symposium "India-Austria : Yesterday and Today" and collaboration in a seminar on Russian Poet Alexander S. Pushkin; release of films, exchange of artists, cultural delegations, scholars, and exhibitions; and presentation of books, art objects, etc., to visiting foreign dignitaries, libraries, and institutions abroad through Missions.

The Council presented performances in Delhi and other cities and also sponsored visits of 61 cultural groups to 57 countries. The Council hosted cultural delegations from various countries, viz., Myanmar, Vietnam, France, Singapore, China, Bulgaria, Uganda, Namibia, Bangladesh, Nepal, Sri Lanka, Germany, Austria, Italy and Egypt. The presentations by these groups included theatre, folk dance & music, western classical music and ballet. The 14 Indian Cultural Centres abroad and Indian Missions carried out their activities to promote greater awareness of India's composite cultural heritage

29 States and Union Territories

ANDHRA PRADESH

Area	: 2,75,068 sq km	Population	: 6,65,08,008
Capital	: Hyderabad	Principal Languages	: Telugu and Urdu

HISTORY AND GEOGRAPHY

The earliest mention of the Andhras is said to be in *Aitareya Brahmana* (2000 BC). It indicates that the Andhras, originally an Aryan race living in north India migrated to south of the Vindhya and later mixed with non Aryans. Regular history of Andhra Desa, according to historians, begins with 236 BC, the year of Ashoka's death. During the following centuries, Satavahanas, Sakas, Ikshvakus, Eastern Chalukyas, Kakatiyas ruled the Telugu country. Other dynasties which ruled over the area in succession were the kingdoms of Vijayanagar and Qutub Shahi followed by Mir Qumruddin and his successors, known as the Nizams. Gradually, from the 17th century onwards, the British annexed territories of the Nizam and constituted the single province of Madras. After Independence, Telugu-speaking areas were separated from the composite Madras Presidency and a new Andhra State came into being on 1 October 1953. With the passing of the States Reorganisation Act, 1956, there was a merger of Hyderabad State and Andhra State, and consequently Andhra Pradesh came into being on 1 November 1956.

Andhra Pradesh is bound on the north by Orissa and Madhya Pradesh, on the west by Maharashtra and Karnataka, on the south by Tamil Nadu and on the east by the Bay of Bengal, with a coastline of 974 km.

AGRICULTURE

Agriculture is the main occupation of about 70 per cent of the people in Andhra Pradesh. Rice is a major food crop and staple food of the state contributing about 80 per cent to 85 per cent of the foodgrain production. Other important crops are jowar, baar, maize, ragi, small millets, pulses, castor, tobacco, cotton and sugarcane. Forests cover 23 per cent of the State's area. Important forest products are teak, eucalyptus, cashew, casuarina, bamboo, soft wood, etc.

IRRIGATION

Important irrigation schemes implemented in the State include Nagarjunasagar project, Prakasam Barrage, Sir Arthur Cotton Barrage, Tungabhadra low-level canal, Kurnool-Cuddapah canal, Kadam project,

Romperu drainage project and Upper Pennar project. Other important projects under implementation are Sriramsagar, Vamsadhara, Srisailem right branch canal, Yeluru Reservoir Scheme, Godavari delta system, etc. Top priority is being given by allocating Rs 80 crore (1999-2000) to Telugu Ganga project intended to supply drinking water to Chennai and to create irrigation potential of 36,030 hectares. Net area irrigated through all irrigation sources covers 59.25 lakh hectares.

Andhra Pradesh is the first state to involve the farmers in the management of irrigation sources. 10,292 water user associations and 174 distributory committees were formed and Rs 164 crore were allotted to these associations to make them functional and economically viable. For all major and minor irrigation schemes in the State Rs 190.993 crore were allotted to the associations in 1999-2000.

POWER

Important power projects in the State are: the Nagarjunasagar and Neelam Sanjiva Reddy Sagar (Srisailem Hydel Project), Upper Sileru, Lower Sileru, Tungabhadra Hydel Projects and Nellore, Ramagundam, Kothagudem, Vijayawada and Muddanur thermal projects. The Srisailem Hydro Electric Project with an installed capacity of 770 mw and the Nagarjunasagar Complex with 960 mw are the principal resources of hydel generation. Vijayawada Thermal Power Station with an installed capacity of 1,260 mw and Kothagudem Thermal Power Station with an installed capacity of 1,180 mw are the main resources of thermal generation. The 1,000-mw coal-based Simhadri Thermal Power Station aims at supplying the entire energy generated to the State.

INDUSTRY AND MINERALS

There are several major industries in operation around Hyderabad and Visakhapatnam. They manufacture machine tools, synthetic drugs, pharmaceuticals, heavy electrical machinery, fertilizers, electronic equipment, aeronautical parts, cement and cement-products, chemicals, asbestos, glass and watches. Andhra Pradesh has the largest deposits of quality chrysotile asbestos in the country. Other important minerals found in the state are copper ore, manganese, mica, coal and limestone. The Singareni Coal Mines supply coal to the entire south India.

The State government is also promoting Indian Institute of Information Technology (IIIT) at Hyderabad.

There were 2,539 large and medium scale industries in the State with a total investment of Rs 37,693.57 crore, providing employment to 7,43,994 persons in 1999. Besides, there were 1,32,504 tiny and small-scale industries with an investment of Rs 2,989.61 crore employing 11,63,022 persons.

TRANSPORT

Roads

National highways passing through Andhra Pradesh constitute 3,005 km and

State highways, including roads taken over by the Districts and Zilla Praja Parishads, cover 43,975 km. There are 1,05,674 km of district roads in the State.

Railways

Of the railways route covering 4,248 km in Andhra Pradesh, 3,378 km is broad-gauge and 870 km is metre-gauge.

Aviation

Important airports in the State are located at Hyderabad, Tirupathi and Visakhapatnam. International flights are operated from Hyderabad.

Ports

Visakhapatnam is a major port in the State. Minor ports are located at Kakinada, Machilipatnam, Bheemunipatnam, Krishnapatnam, Vadarevu and Kalingapatnam.

TOURIST CENTRES

Charminar, Salarjung Museum, Golconda Fort in Hyderabad, Thousand Pillar Temple and Fort in Warangal, Sri Lakshmi Narasimha Swamy Temple at Yadagirigutta, Buddha Stupa at Nagarjunakonda, Sri Venkateswara Temple at Tirumala-Tirupathi, Sri Mallikarjunaswamy Temple at Srisailem, Kanaka Durga Temple at Vijayawada, Araku Valley, Horsley Hills, etc., are the major tourist attractions in Andhra Pradesh. Thirty-three life size statues of eminent Telugu personalities of the State were erected on Lank Bund of Hussainsagar lake in Hyderabad. A giant statue of Lord Buddha of a height of about 60 feet has been erected on the Gibraltar rock in the Hussainsagar lake which separates Hyderabad and Secunderabad cities. The State Government allotted Rs. 45 crore during 1999-2000 for tourism development.

GOVERNMENT

Governor	Dr C. Rangarajan	Chief Secretary	P.V. Rao
Chief Minister	N. Chandrababu Naidu	Chief Justice	Moonchand Singh Fisherian
Speaker	K. Pratibha Bharathi	Jurisdiction of High Court	Andhra Pradesh

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area in 000 sq km	Population	Headquarters
1.	Adilabad	16.1	20,82,679	Adilabad
2.	Ananthapur	19.1	31,83,814	Ananthapur
3.	Chittoor	15.2	32,61,118	Chittoor
4.	Cuddapah	15.4	22,67,769	Cuddapah
5.	East Godavari	10.8	45,41,222	Kakinada

6.	Guntur	11.4	41,06,999	Guntur
7.	Hyderabad	0.2	31,45,939	Hyderabad
8.	Karimnagar	11.8	30,37,486	Karimnagar
9.	Khammam	16.0	22,15,809	Khammam
10.	Krishna	18.7	36,98,933	Machilipatnam
11.	Kurnool	17.7	29,73,024	Kurnool
12.	Mahaboobnagar	18.4	30,77,050	Mahaboobnagar
13.	Medak	9.7	22,69,800	Sangareddy
14.	Nalgonda	14.2	28,52,092	Nalgonda
15.	Nellore	13.1	23,92,260	Nellore
16.	Prakasam	17.6	27,59,166	Ongole
17.	Nizamabad	8.0	20,37,621	Nizamabad
18.	Rangareddy	7.5	25,51,966	Hyderabad
19.	Srikakulam	5.8	23,21,126	Srikakulam
20.	Visakhapatnam	11.2	32,85,092	Visakhapatnam
21.	Vizianagaram	6.5	21,10,943	Vizianagaram
22.	Warangal	12.9	28,18,832	Warangal
23.	West Godavari	7.7	35,17,568	Eluru

ARUNACHAL PRADESH

Area	: 83,743 sq km	Population	: 8,64,558
Capital	: Itanagar	Principal Languages	: Monpa, Miji, Aka, Sherdukpen, Nyishi, Apatani, Tagin, Hill Miri, Adi, Digaru-Mismi, Idu-Mishmi, Khamti, Miju-Mishmi, Nocte, Tangsa and Wancho.

HISTORY AND GEOGRAPHY

Arunachal Pradesh, the erstwhile North-East Frontier Agency shares international boundaries with Bhutan, Tibet, China and Myanmar to the west, north-east, north and east respectively, and the state boundaries with Assam and Nagaland. The terrain consists of submontane and mountainous ranges, sloping down to the plains of Assam, divided into valleys by the rivers Kameng, Subansiri, Siang, Lohit and Tirap.

There are practically no records relating to the history of this area, except some oral literature and a number of historical ruins found mainly in the foothills. Subsequent explorations and excavations have identified the ruins as dating approximately from the early Christian era. The historical evidence indicates that not only was the area well known, but the people living here had close relations with the rest of the country.

Modern history, in Arunachal Pradesh, begins with the inception of British rule in Assam after the treaty of Yandaboo concluded on the 24 February 1826.

Before 1962 the area was popularly known as the North East Frontier Agency (NEFA), and was constitutionally a part of Assam. Because of its strategic importance, however, it was administered by the Ministry of External Affairs until 1965 and subsequently by the Ministry of Home Affairs, through the Governor of Assam. In 1972 it was constituted as a Union Territory and renamed Arunachal Pradesh. On 20 February 1987, it became the 24th state of the Indian Union.

AGRICULTURE AND HORTICULTURE

Agriculture is the mainstay of the people of Arunachal Pradesh and had mainly depended on *jhum* cultivation. Foodgrain production was 2,03,287 MT in 1998-99. Encouragement is being given to the cultivation of cash crops like potatoes and horticulture crops like apples, oranges and pineapples.

INDUSTRIES AND MINERALS

For conservation and explorations of vast minerals the Arunachal Pradesh Mineral Development and Trading Corporation Limited (APMDTCL) was set up in 1991. Namchik-Namphuk coal field are taken up by APMDTCL.

To provide training to craftsmen in different trades there are two industrial Training Institutes at Roing and Daporijo. At present there are 88 crafts and weaving centres, 18 medium scale industries, 5,224 registered SSI units besides one mini-cement plant, a fruit processing plant and a citronella oil distillery.

IRRIGATION AND POWER

A total area of 87,578 hectares has been irrigated since inception till 1998-99. The installed capacity of the State is about 30,735 MW. As many as 2,597 villages have been electrified out of 3,649 villages in the State.

TRANSPORT

Roads : Arunachal Pradesh has 330 km of national highway.

FESTIVALS

Some of the important festivals of the State are: *Mopin* and *Solung* of the Adis, *Lossar* of the Monpas and the Sherdukpens, *Boori-boot* of the Hill Miris, *Dree* of the Apatanis, *Si-Donyi* of the Tagins, *Reh* of the Idu-Mishmis, *Nyokum* of the Nishings, *Chalo loku* of the Noctes, etc. Animal sacrifice is a common ritual in most festivals.

TOURIST CENTRES

Places of tourist interest are : Tawang, Dirang, Bomdila, Tipi, Itanagar, Malinithan, Likabali, Pasighat, Along, Tezu, Miao, Roing, Daporijo, Namdapha, Bhismaknagar, Parashuram Kund and Khonsa.

GOVERNMENT

Governor	: Arvind Dave	Chief Secretary	: P.M. Nair
Chief Minister	: Mukut Mithi	Jurisdiction of	: Guwahati High Court
Speaker	: Tamiyo Taga	High Court	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Tawang	2,172	28,287	Tawang
2.	West Kamang	7,422	56,421	Bomdila
3.	East Kamang	4,134	50,395	Seppa
4.	Papum-Pare	2,875	72,811	Itanagar (Yupia)
5.	Lower Subansiri	10,135	83,167	Ziro
6.	Upper Subansiri	7,032	50,086	Daporijo
7.	West Siang	8,325	89,936	Along
8.	East Siang	4,005	71,864	Pasighat
9.	Upper Siang	6,188	27,779	Yingkiong
10.	Dibang Valley	13,029	43,068	Anini
11.	Lohit	11,402	1,09,706	Tezu
12.	Changlang	4,662	95,530	Changlang
13.	Tirap	2,362	85,508	Khonsa
14.	Kurung-Kumey	NA	NA	Laaying-Yangte

ASSAM

Area	: 78,438 sq km	Population	: 2,24,14,322
Capital	: Dispur	Principal Language	: Assamese

HISTORY AND GEOGRAPHY

The word 'Assam' as interpreted by some scholars is derived from the Sanskrit word *Asoma* meaning peerless or unparalleled. But the widely accepted opinion of the academic circles today is that the term has come from the original name of the *Ahoms*, who ruled the land for about six hundred years prior to its annexation by the British. The races like Austric, Mongolian, Dravidian and Aryan that came to this land long-long ago have contributed to its composite culture. Thus Assam has a rich legacy of culture and civilization.

Assam was known as *Pragjyotisha* or the place of eastern astronomy during the epic period and later named as *Kamrupa*. The earliest epigraphic reference to the kingdom of Kamrupa is found in the Allahabad pillar inscription of Samudragupta. Kamrupa is mentioned as a *Pratyanta* or frontier state outside the Gupta empire but with friendly and subordinate relation to it. Hiuen Sang, the Chinese scholar pilgrim who visited Kamrupa in about 743 AD on an invitation of its monarch, Kumar Bhaskar Varman, left a record of the kingdom he called Kamolupa. Kamrupa also figured in the writings of the Arab historian Alberuni in the 11th century. Thus, from the epic period down to the 12th century AD, the eastern frontier kingdom was known throughout the Arya Varta both as *Pragjyotisha* and Kamrupa and kings called themselves Lord of Pragjyotisha'.

The advent of the Ahoms across the eastern hills in 1228 AD was the turning-point in Assam history. They ruled Assam nearly for six centuries. The Burmese entered through the eastern borders and overran the territory at a time when court intrigues and dissensions were sapping the vitality of the Ahom royalty. The British appeared soon in 1826 and by the Treaty of Yandabu, the Burmese ceded Assam to the British.

Assam is the sentinel of north-east India and gateway to the North-Eastern States. The State is close to India's international borders with Bangladesh and Bhutan. Assam is surrounded by Bhutan and Arunachal Pradesh on the north, Manipur, Nagaland and Arunachal Pradesh on the east and Meghalaya, Tripura and Mizoram on the south.

AGRICULTURE

Assam is an agricultural State. Agriculture which accounts for the livelihood of about four-fifths of the State's population still holds the key to the State's economic growth. About 74 per cent of the State's work-force is engaged in agriculture and allied activities. The principal food crop is rice. Cash crops are jute, tea, cotton, oilseeds, sugarcane, potato, etc. Major horticulture items are orange, banana, pineapple, arecanut, coconut, guava, mango, jackfruit and other citrus fruits are noteworthy. The State has a gross cropped area of about 39.44 lakh hectares of which net area sown is about 27.51 lakh hectares.

FORESTS

Assam is known for her rich forest wealth with varieties of flora and fauna. The total area under forests in Assam was 20.24 lakh hectares in March 1999, of which, area under reserved forests was 17.42 lakh hectares. The area under reserved forests constituted about 22.21 per cent of the total area of Assam.

WILD LIFE

The State has five National Parks and 11 wild life and bird sanctuaries. The Kaziranga National Park and the Manas Tiger Project (National Park) are internationally famous.

INDUSTRY

Of agriculture-based industries, tea occupies an important place. Tea gardens in the State occupy an area of about 2.31 lakh hectare, and there are 850 tea estates in all. Assam contributes about 15 per cent of the world's entire tea production and Guwahati Tea Auction Centre has now become the biggest tea auction centre in the world for CTC tea. Assam is fairly rich in petroleum and natural gas, limestone and coal. Exploration, exploitation and refining of petroleum form the bulk of the industries in the State. The fourth refinery at Numaligarh with three million tonnes capacity set up at an estimated cost of Rs 2,350 crore has already started functioning. During 1998, Assam produced 5,251 lakh MT of crude oil, 1,257 million cubic metre of natural gas, 57.50 lakh MT of coal and 48.80 lakh MT of limestone. Two industrial growth centres are being set up at Balipara and Matia.

The proposed mega-Gas Cracker project at Tengakhat will produce three lakh tonnes of ethylene annually. Construction of the Export Promotion Industrial Park (EPIP) at Amingaon near Guwahati is nearing completion. A Software Technology Park will be constructed at an estimated cost of Rs five crore near Guwahati. The Central Institute for Plastic Engineering Technology will come up soon at Guwahati. Assam has always enjoyed the highest reputation for her arts and crafts associated with her cottage industries. Cottage industries include handloom, sericulture, cane and tobacco articles, carpentry, brass and metal crafts. Assam produces varieties of silk. *Endi*, *Muga*, *Tassar* and mulberry, etc. Muga is non-mulberry silk and it is produced only in Assam.

IRRIGATION AND POWER

A total of 4.83 lakh hectares of irrigation potential had been created up to 1998-99. Ten major and medium and 1,327 minor irrigation projects were scheduled to be executed during 1999-2000.

Assam at present has an installed capacity of power generation of about 574.40 MW. The major power stations are Chandrapur Thermal Project, Namrup Thermal Project and a few Mobile Gas Turbine units along with a mini hydro-electric project. Revitalizing the Thermal Power Station of Bongaigaon and completing the Karbi Langpi Project with private investment will boost the power supply in the State. Approval has been received for Tipaimukh Dam Project.

TRANSPORT

Roads

In 1995-96, the total length of roads in Assam was 33,110 km which include 2,070 km of National Highway, 2,177 km of State Highway and 28,861 km of other PWD roads.

Railways

The length of railway tract in Assam is 3,816.15 km comprising both metre-

gauge and broad-gauge lines. The extension of the broad-gauge railway line from Guwahati to Dibrugarh has been completed. "Naranarayan Setu", the third bridge over the Brahmaputra at Jogighopa-Pancharatna, was opened on 15 April 1998.

Aviation

Lokpriya Gopinath Bordoloi airport (Guwahati), Salonibari (Tezpur), Mohanbari (Dibrugarh), Lilabari (Lakhimpur), Kumbhirgram (Silchar) and Rowriah (Jorhat) are civil airports in the State.

FESTIVALS

Assam has an exclusive range of colourful festivals. *Bihu* is the chief festival celebrated on the three occasions. *Rongali Bihu* or *Bohag Bihu* marks the advent of the cropping season and it also ushers in the Assamese New Year. *Bhogali Bihu* or *Magh Bihu* is the harvest festival and *Kati Bihu* or *Kongali Bihu* coming in autumn is a simple affair.

Religion accounts for a large variety of festivals. *Vaishnavites* observe birth and death anniversaries of prominent *Vaishnava* saints through day-long singing of hymns and staging of *Bhaonas* (theatrical performances in traditional style). *Ambubachi* in Kamakhya shrine, *Sivaratri Mela* at Umananda and other places near Siva temples, *Durga Puja*, *Diwali*, *Dol-Jatra*, *Idd*, *Christmas*, *Ashokastami Mela*, *Rash Mela*, *Parasuram Mela* are other religious festivals.

TOURISM

Important places of tourism in and around Guwahati are Kamakhya temple, Umananda (Peacock Island), Navagraha (temple of nine planets), Basistha Ashram, Dolgobinda, Gandhi Mandap, State Zoo, State Museum, Sukreswar temple, Gita Mandir, Madan Kamdev temple, a magnificent archaeological place of interest, and Saraighat bridge.

Other places of tourist interest in the State are : Kaziranga National Park (famous for one horned rhino), Manas Tiger Project, Pobi-tora and Orang (wildlife sanctuaries), Sibsagar (Shiv Temple-Rangghar-Karengghar), Tezpur (Bhairavi temple and scenic beauty), Bhalukpong (Angling), Haflong (health resort with Jatinga hills), Majuli (largest river island in the world), Chandubi lake (picnic spot), Hajo (meeting point of Buddhism, Hinduism and Islam), Batadrava (birth place of great *Vaishnava* saint Sankaradeva) and Sualkuchi (famous for silk industry).

GOVERNMENT

Governor	: Lt. Gen. (Retd.) S.K. Sinha	Chief Secretary	: Pranab Kumar Bora
Chief Minister	: Prafulla Kumar Mahanta	Chief Justice	: Brijesh Kumar
Speaker	: Ganesh Kutum	Jurisdiction of	: All North-Eastern States
		Guwahati High	
		Court	

AREA, AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population (in lakh)	Headquarters
1.	Dhubri	2,838	13.32	Dhubri
2.	Kokrajhar	3,129	8.01	Kokrajhar
3.	Bongaigaon	2,510	8.08	Bongaigaon
4.	Goalpara	1,824	6.68	Goalpara
5.	Barpeta	3,245	13.86	Barpeta
6.	Nalbari	2,257	10.16	Nalbari
7.	Kamrup	4,345	20.00	Guwahati
8.	Darrang	3,481	12.99	Mangaldoi
9.	Sonitpur	5,324	14.24	Tezpur
10.	Lakhimpur	2,277	7.52	North Lakhimpur
11.	Dhemaji	3,237	4.79	Dhemaji
12.	Morigaon	1,704	6.40	Morigaon
13.	Nagaon	3,831	18.93	Nagaon
14.	Golaghat	3,502	8.28	Golaghat
15.	Jorhat	2,851	8.71	Jorhat
16.	Sibsagar	2,668	9.08	Sibsagar
17.	Dibrugarh	3,381	10.42	Dibrugarh
18.	Tinsukia	3,790	9.62	Tinsukia
19.	Karbi-Anglong	10,434	6.63	Diphu
20.	North Cachar Hills	4,888	1.51	Haflong
21.	Karimganj	1,809	8.27	Karimganj
22.	Hailakandi	1,327	4.49	Hailakandi
23.	Cachar	3,786	12.15	Silchar

BIHAR

Area	: 1,73,877 sq km	Population	: 8,63,74,465
Capital	: Patna	Principal Language	: Hindi

HISTORY AND GEOGRAPHY

Bihar finds mention in the *Vedas*, *Puranas*, epics, etc., and was the main scene of activities of Buddha, and 24 Jain Tirthankars. Great rulers of the State before the Christian era were Bimbisara, Udayin, who founded the city of Pataliputra, Chandragupta Maurya and Emperor Ashoka and Maurya dynasty, the Sungas and the Kanvas. Then came the Kushan rulers followed by Chandragupta Vikramaditya of the Gupta dynasty. During medieval period Muslim rulers made in-roads into the territory. The first to conquer Bihar was Mohammed-bin-Bakhtiar Khalji. The Khaljis were followed by the Tughluqs and then the Mughals. Taking advantage of the disintegration of the Mughal empire, the

British established their foothold in Bihar with the battle of Plassey in 1757. Through successive battles and annexations, the British consolidated their position. Bihar formed part of the Bengal Presidency till 1911, when on 12 December 1911, a separate province of Bihar and Orissa was created. In 1936, Bihar was made a separate province.

Bihar is one of the major states of the Indian Union. It is bounded on the north by Nepal, on east by West Bengal, on west by Uttar Pradesh and on south by Orissa. Bihar has a number of rivers; the most important is Ganga, others are: Sone, Poonpoo, Falgu, Karmanasa, Durgawati, Damodar, Swarnarekha, Baraker, Koal, Kosi, Gandak, Ghaghara, etc.

AGRICULTURE

Bihar has a total geographical area of about 173.30 lakh hectare, out of which only 76 lakh hectare is the net cultivated area and gross cultivated area being about 105.1 lakh hectare. About 34.53 lakh hectare net area and 42.11 lakh hectare gross area receive irrigation from different sources. Principal foodgrain crops are paddy, wheat, maize, and pulses. Main cash crops are sugarcane, potato, tobacco, oilseeds, onion, chillies, jute and mesta. Forests cover about 29 lakh hectare which is almost 17 per cent of the geographical area.

INDUSTRIES AND MINERALS

Major industries are : two integrated steel plants, namely, Bokaro Steel and Tata Iron and Steel and a number of secondary steel making units with a total established annual capacity of around 7.20 million tonnes, the largest coal-based sponge iron plant at Chandi; the area's largest rope making complex at Usha Martin Industries of Ranchi; heavy vehicles plant of Tata Engineering and Locomotives Company, Jamshedpur; heavy plant building complex of Heavy Engineering Corporation at Ranchi; taper bearing plant of Tata Tenkin at Jamshedpur; diesel engine manufacturing plant at Tata Commins at Jamshedpur; Alumina Plant of India Aluminium Company at Muri; railway wagons plants of Bharat Wagon Limited at Muzaffarpur and Mokama; copper smelter complex at Hindustan Copper Corporation, Ghatshila; uranium complex of Uranium Corporation of India at Jadugora; zinc smelter of Hindustan Zinc Limited, Dhanbad; oil refinery of Indian Oil Corporation at Barauni; three fertilizers manufacturing plants of HFCL at Barauni, FCI at Sindri and PPCL at Amjhore; cement plants at Banjari, Jamshedpur, Sindri and Chailbasa; communication cables unit of Usha Belton at Ranchi, and power cables unit of India Cable Company at Jamshedpur; largest steel unit of Indo-Asahi Pataratu and cotton spinning mills at Siwan, Pandaul, Bhagalpur, Mokama and Gaya. Besides, there are 13 sugar mills in the private sector and 15 in the public sector located in North Central Bihar with a total crushing capacity of 46,000 TPD, and a number of distilleries, tanning and leather finishing industries in north and central region of the State and three large jute mills, at Katihar and Samastipur. New projects with approximate investment of Rs 15,000 crore include zinc oxide and zinc ingots, expansion and modernisation of Bokaro Steel Limited, modernisation and expansion of

TISCO, industrial alcohol and paper plants, copper concentrate, granite cutting and polishing, steel blast furnace, crystal glass, steel rolling mill, cold rolled steel complex, coal washeries, slag cement, aluminium plants, etc.

Bihar is renowned for its rich mineral resources. The mineral products are coal, iron ore, bauxite, lime stone, mica, pyrite, graphite, copper ore, etc. Bihar leads in the production of uranium and pyrite.

IRRIGATION AND POWER

Bihar has an irrigation potential of 122.98 lakh hectare. Out of this 66.295 lakh hectare is to be created through major and medium irrigation schemes and 56.685 lakh hectare is to be created through minor irrigation schemes. Irrigation potential of 66.295 lakh hectare is targeted to be created by the end of Twelfth Five Year Plan.

Major power projects under the state sector are: Patratu Thermal Power Station (840 MW), Barauni Thermal Power Station (320 MW), Muzaffarpur Thermal Power Station (220 MW), Subarnrekha Hydel Power Station (130 MW), Kosi Hydel Power (19.2 MW), under the Bihar State Electricity Board and Tenughat Power Station under Tenughat Vidyut Nigam Limited. Under the Central sector, the major power stations are: Bokaro Thermal Power Station (830 MW), Chandrapura Thermal Power Station (750 MW) along with Tilaiya Hydel Power Station (4 MW), Maithon Hydel Power Station (60 MW), Panchet Hydel Power Station (80 MW) under the Damodar Valley Corporation and Kahalgaon Super Thermal Power Project (840 MW) under National Thermal Power Corporation. Besides this, Bihar receives its share of power from Farakka Super Thermal Power Station and Tacher Super Thermal Power Project under the National Thermal Power Corporation, Durgapur Thermal Power Station under DVC and Chukka Hydel Power Station under National Hydro-electric Power Corporation

TRANSPORT

Roads

Up to March 1999, Bihar had 20,973.7 km of pucca road including 3,075.7 km of national highways and 17,898 km of state highways, major district roads and other rural district roads.

Railways

Bihar has a fairly good railway network. Communication in north Bihar is difficult as there is only one railway bridge at Mokamah. A few railway routes connecting important places like Muzaffarpur-Samastipur-Barauni-Katihar and Muzaffarpur-Chapra-Siwan have been converted into broad gauge. The main rail junctions are at Patna, Dhanbad, Gaya, Muzaffarpur, Katihar, Samastipur, Jamshedpur, Ranchi, etc.

Aviation

There are airports at Patna and Ranchi, besides landing grounds in all major districts of the State.

TOURIST CENTRES

Important places of tourist interest are Rajgir (pilgrim place for Buddhists), Bodh Gaya (most sacred place for Buddhists), Gaya (centre of pilgrimage for Hindus), Nalanda (ruins of World's earliest Buddhist University), Vaishali (the seat of the first Republic of the world in the sixth century BC), Pawapuri (where Lord Mahabir breathed his last), Ranchi (waterfalls and scenic beauty), Jamshedpur (steel city), Hazaribagh (wildlife reserve famous for its National Park), Betla (Palamau National Park), Bhimbandh (hot water springs), Manar (sacred Muslim shrines of Sufi Saint Hazarat Makhdoom Shah), Vikramshila (ruins of another Buddhist University), Topchanchi (scenic value), Deoghar (Hindu shrines), Patna (ancient city of Pataliputra) and Sasaram (tomb of Shershah Suri).

GOVERNMENT

<i>Governor</i>	: V.C. Pande	<i>Chief Secretary</i>	: V.S. Dubey
<i>Chief Minister</i>	: Mrs Rabri Devi	<i>Chief Justice</i>	: Ravi S. Dhavan
<i>Speaker</i>	: Sada Nand Singh	<i>Jurisdiction of</i>	: Bihar
		<i>High Court</i>	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (in sq km)	Population	Headquarters
1.	Araria	2,796.8	16,11,638	Araria
2.	Aurangabad	3,389.2	15,39,988	Aurangabad
3.	Begusarai	1,889.1	18,14,773	Begusarai
4.	Bhagalpur	2,501.9	32,047	Bhagalpur
5.	Banka	3,020.2	12,92,504	Banka
6.	Bhojpur	2,337	28,80,447	Arrah
7.	Buxar	1,633.6	10,87,676	Buxar
8.	Bhabhua	1,840.3	9,83,269	Bhabhua
9.	Bokaro	2,860.9	14,54,416	Bokaro
10.	Chatra	3,700.2	6,12,713	Chatra
11.	Darbhanga	2,502	25,10,959	Darbhanga
12.	Deoghar	2,478.6	9,33,113	Deoghar
13.	Dhanbad	2,074.8	26,74,652	Dhanbad
14.	Dumka	5,518.2	14,95,709	Dumka
15.	East Champaran	4,154.8	30,43,061	Motihari
16.	East Singhbhum	3,533.3	16,13,088	Jamshedpur
17.	Gaya	4,941	26,64,803	Gaya
18.	Giridih	4,887	22,25,480	Giridih
19.	Godda	2,110.4	8,61,182	Godda
20.	Gopalganj	2,009.2	17,04,310	Gopalganj
21.	Gumla	1,932.8	11,53,976	Gumla
22.	Garhwa	4,063.5	8,01,350	Garhwa

23.	Hazaribagh	7,277.1	8,43,544	Hazaribagh
24.	Jahanabad and Arwal	1,569.3	11,74,900	Jahanabad and Arwal
25.	Jamui	2,996.5	10,51,527	Jamui
26.	Koshi	1,195.6	2,47,525	Saharsa
27.	Katihar	3,009.9	18,25,380	Katihar
28.	Khagaria	1,485.8	9,87,227	Khagaria
29.	Kishanganj	1,938.5	1,84,107	Kishanganj
30.	Kodarma	2,410	6,29,264	Kodarma
31.	Lohardaga	2,835.4	2,88,886	Lohardaga
32.	Madhepura	1,797.4	11,77,708	Madhepura
33.	Madhubani	3,477.8	28,32,024	Madhubani
34.	Lakhisarai/Munger/ Shekhpura	3,302.2	30,60,027	Lakhisarai/Munger/ Shekhpura
35.	Muzaffarpur	3,122.7	29,53,903	Muzaffarpur
36.	Nalanda	2,361.7	19,97,995	Biharsharif
37.	Nawada	2,497.5	13,59,694	Nawada
38.	Palamu	7,975.8	23,51,191	Daltonganj
39.	Pakur	1,805	5,64,253	Pakur
40.	Patna	3,130.1	36,18,211	Patna
41.	Purnea	3,202.3	18,78,885	Purnea
42.	Ranchi	7,973.8	22,14,080	Ranchi
43.	Rohtas	3,838.2	2,90,685	Sasara
44.	Sahebganj	3,405.6	—	Sahebganj
45.	Samastipur	2,578.7	—	Samastipur
46.	Saran	2,624.1	25,72,980	Chhapra
47.	Sitamarhi and Shivhar	2,627.7	23,91,495	Sitamarhi/Shivhar
48.	Siwan	2,213	2,17,097	Siwan
49.	Supaul	2,984.9	—	Supaul
50.	Vaishali	1,995.3	21,46,065	Hazipur
51.	West Champaran	4,249.9	23,33,666	Betia
52.	West Singhbhum	8,012	17,87,955	Chaibasa

A separate State of Jharkhand comprising the following districts came into existence in November 2000: Ranchi, Gumla, Lohardaga, Palamau, Garhwa, Dhanbad, Bokaro, Hazaribagh, Chatra, Giridih, Kodarma, East Singhbhum, West Singhbhum, Dumka, Deoghar, Godda, Pakur and Sahebganj.

GOA

Area	: 3,702 sq km	Population	: 11,69,793
Capital	: Panaji	Principal Languages	: Konkani and Marathi

HISTORY AND GEOGRAPHY

Goa, known in the bygone days as Gomanchala, Gopakapattam, Gopakapuri, Govapuri, Gomantak, etc., abounds in a rich historical heritage. Early history

of Goa is obscure. In the first century of the Christian era, Goa was a part of the Satavahana empire, followed by the Kadamba, the Rashtrakutas of Malkhed, the Chalukyas and the Silharas. The empire of the Yadavas by the end of the 14th century was displaced by the Khiljis of Delhi and thus Muslim rule came to Goa. After the discovery of the sea route to India by Vasco-da-Gama in 1498, many Portuguese expeditions came to India. In 1510, Alfonso de Albuquerque with the help of the emperor of Vijayanagar attacked and captured Goa. With the arrival of the Jesuit priest Francis Xavier in 1542 proselytisation began in Goa. However, the Portuguese continued to rule over the territory except for an interlude during the latter half of the 17th century when Shivaji conquered a few areas in and around Goa. Even after India's independence, Goa continued to be in the hands of the Portuguese. However, they could not fulfil the aspirations of the Goan people and ultimately on 19 December 1961, Goa was liberated and made a composite union territory with Daman and Diu. On 30 May 1987 Goa was conferred statehood and Daman and Diu was made a separate union territory.

Goa is situated on the western coast of the Indian Peninsula. On its north runs the Terekhol river which separates Goa from Maharashtra and on the south lies North Canara district of Karnataka. On the east lie the Western Ghats and in the west the Arabian Sea. Panaji, Margao, Vasco, Mapusa and Ponda are the main towns of Goa.

AGRICULTURE

Rice is the main food crop. Pulses, ragi and other food crops are also grown. Main cash crops are coconut, cashewnut, arecanut, sugarcane and fruits like pineapple, mango and banana. Goa produces 2,27,029 tonnes of paddy and 64,000 tonnes of sugarcane and 121 million nuts of coconut. The State has a rich forest cover of the more than 1,424 sq km.

IRRIGATION AND POWER

With the commissioning of dams like Selaulim and Anjunem and other minor irrigation projects, area under irrigation is rising steadily. Work on Tilari dam has also been taken up. Total irrigation potential created by these projects till now is 43,000 hectares. All villages have been electrified leading to cent per cent coverage.

INDUSTRY AND MINERALS

The State has 5,765 small-scale industrial units with a total investment of Rs 219.09 crore and employment opportunities for 39,432 persons, in large and medium sector, 140 units with an investment of Rs 1,555.65 crore employing 18,923 persons. There are 16 industrial estates besides a new electronic city coming up in the State. Mineral products are ferro-manganese, bauxite and iron ore contributing substantially to the economy of the State through exports.

TRANSPORT

Roads

Of the motorable roads, national highway constitutes 224 km, state highways 232 km and district roads 815 km.

Railways

Goa is linked with Mumbai, Mangalore and Thiruvananthapuram through the Konkan Railway, which has introduced several fast trains on these lines. Vasco da Gama is connected with Bangalore and Belgaum on the South Central Railway, presently for goods traffic only.

Aviation

Mumbai, Delhi, Thiruvananthapuram, Cochin, Chennai, Agartala and Bangalore are linked with Dabolim through regular Airlines services.

Ports

Mormugao is the major port in the State. Mormugao handles cargo vessels. Minor ports are located at Panaji, Tiracol, Chapora Betul and Talpona, out of which Panaji is the main operative port. One offshore berth at Panaji has been commissioned recently.

TOURIST CENTRES

Important tourist centres are Colva, Calangute, Vagator, Baga, Harmal, Anjuna and Miramar beaches; Basilica of Bom Jesus and Se Cathedral churches at Old Goa; Kavlem, Mardol, Mangueshi, Bandora temples; Aguada, Terekhol, Chapora and Cabo de Rama Forts; Dudhsagar and Harvalem Waterfalls and Mayem Lake Resort. The State has rich wildlife sanctuaries, viz., Bondla, Cotigao, Molem and Dr Salim Ali Bird Sanctuary at Chorao covering an area of 354 sq km.

GOVERNMENT

Governor	: Md. Fazal	Chief Secretary	: Ashok Nath
Chief Minister	: Manohar Parrikar	Jurisdiction of High Court	: Falls under Panaji Bench of Mumbai High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

District	Area (sq km)	Population	Headquarters
North Goa	1,736	6,64,804	Panaji
South Goa	1,966	5,04,989	Margao

GUJARAT

Area	:	1,96,024 sq km	Population	:	4,13,09,582
Capital	:	Gandhinagar	Principal Language	:	Gujarati

HISTORY AND GEOGRAPHY

The history of Gujarat goes back to 2000 BC. It is believed that Lord Krishna left Mathura to settle on the west coast of Saurashtra which later came to be known as Dwarka, the gateway. Later, it saw various kingdoms: Mauryans, Guptas, Pratiharas and others. It was with Chalukya (Solankis) that Gujarat witnessed progress and prosperity. In spite of the plunderings of Mahmud Ghazni, the Chalukya kings were able to maintain general prosperity and well-being of the State. After this glorious respite, Gujarat faced troubled times under the Muslims, Marathas and the British rule.

Before Independence, the present territories of Gujarat used to be in two parts—the British and the Princely territories. With the reorganisation of the States, the Union of the States of Saurashtra and the Union Territory of Kachchh along with the former British Gujarat, became a part of the bigger bilingual State of Bombay. The present State of Gujarat came into being on 1 May 1960.

It is situated on the west coast of India. The state is bounded by the Arabian Sea on the west, Pakistan and Rajasthan in the north and north-east respectively, Madhya Pradesh in the south-east and Maharashtra in the south.

AGRICULTURE

Gujarat is the main producer of tobacco, cotton and groundnut in the country and provides inputs for important industries like textiles, oil and soap. Other important cash crops are *isabgol*, paddy, wheat and *bajra*. Forest species available in Gujarat are teak, *khair*, *sadad*, *haldariyo* and manual bamboos.

INDUSTRY

The industrial structure in the State has been gradually diversifying with the development of industries like chemicals, petrochemicals, fertilisers, engineering, electronics, etc. The number of registered working factories in the State were 19,771 at the end of 1999 with the average daily employment to 8.65 lakh. The number of small scale industrial units in the State was 2,33,777 on 31 October 1999. Gujarat Industrial Development Corporation (GIDC) has been assigned the role of developing industrial estates with infrastructure facilities. As on 31 March 1999, GIDC had set up 260 industrial estates. These include mega industrial estate at Jhagadia, Vagra and Savli. GIDC is developing a large industrial estate at Dahej.

IRRIGATION AND POWER

The total irrigation potential through surface water as well as ground water

has been assessed at 64.88 lakh hectares including 17.92 lakh hectares through Sardar Sarovar (Narmada) Project. The total irrigation potential created up to June 1999 is worked out to 36.43 lakh hectares. The maximum utilisation has been estimated at 30.95 lakh hectares up to June 1999.

The installed capacity at the end of December 1999 was 8017 MW. Out of 18,028 villages, 17,940 villages have been electrified in the State.

TRANSPORT

Roads

The total length of roads was 72,950 km by the end of 1998-99. The length of surfaced roads was 68,519 km.

Aviation

The main airport of Gujarat at Ahmadabad is connected with Mumbai, Delhi and other cities by daily services. Ahmadabad airport has now got the status of an International Airport. The State has nine other airports at Vadodara, Bhavnagar, Bhuj, Surat, Jamnagar, Kandla, Keshod, Porbandar and Rajkot.

Ports

Gujarat has 40 ports of which Kandla is a major one. The intermediate and minor ports of Gujarat handled a total cargo of 250.83 lakh tonnes whereas Kandla port handled cargo of 406.37 lakh tonnes during 1998-99.

FESTIVALS

Tarnetar fair is held at village Tarnetar in the honour of Lord Shiva on the 4th, 5th and 6th days of the bright half of the month of *Bhadrapada* (August/September). *Madhavrai* fair at Madhavpur near Porbandar is held to celebrate the marriage by elopement of Lord Krishna and Rukmini, on the ninth day of the bright half of the month of *Chaitra* (March/April). *Ambaji* fair dedicated to Amba, mother goddess is held in Banaskantha district. The biggest annual fair, *Janmashtami* the birthday of Lord Krishna is celebrated at Dwarka and Dakor with great enthusiasm. Other festivals are *Makar-Sankranti*, *Navratri*, *Dangi darbar*, *Shamlaji* fair, *Bhavnath* fair, etc.

TOURIST CENTRES

Religious spots like Dwarka, Somnath, Palitana, Pavagadh, Ambaji, Bhadrashwar, Shamlaji, Taranga and Girnar; Porbandar, birth place of Mahatma Gandhi, places of memorable monuments of architectural and archaeological surprises like Patan, Siddhpur Ghumli, Dabhoi, Vadnagar, Modhera, Lothal and Ahmadabad; beautiful beaches like Ahmadpur-Mandvi, Chorwad, Ubharat and Tithal; the hill station Saputara; lion sanctuary of Gir Forest and wild ass sanctuary in Kachchh area are major tourist attractions in the State.

GOVERNMENT

<i>Governor</i>	: Sundar Singh Bhandari	<i>Chief Secretary</i>	: L.N.S. Mukundan
<i>Chief Minister</i>	: Keshubhai Patel	<i>Chief Justice</i>	: D.M. Dharmadhikari
<i>Speaker</i>	: Dhurubhai Shah	<i>Jurisdiction of High Court</i>	: Gujarat

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Ahmadabad	8,707	48,01,812	Ahmadabad
2.	Amreli	6,760	12,52,589	Amreli
3.	Banaskantha	12,703	21,62,578	Palanpur
4.	Bharuch	9,038	15,46,145	Bharuch
5.	Narmada ¹	—	—	Rajpipla
6.	Bhavnagar	11,155	22,92,026	Bhavnagar
7.	Gandhinagar	649	4,08,992	Gandhinagar
8.	Jamnagar	14,125	15,63,558	Jamnagar
9.	Junagadh	10,607	23,94,859	Junagadh
10.	Porbandar ¹	—	—	Porbandar
11.	Kuchchh	45,652	12,62,507	Bhuj
12.	Kheda	7,194	34,40,897	Nadiad
13.	Anand ¹	—	—	Anand
14.	Mehsana	9,027	29,37,870	Mehsana
15.	Patan ¹	—	—	Patan
16.	Panchmahal	8,866	29,56,458	Godhara
17.	Dahod ¹	—	—	Dahod
18.	Rajkot	11,203	25,14,122	Rajkot
19.	Sabarkantha	7,390	17,61,086	Himatnagar
20.	Surat	7,657	33,97,900	Surat
21.	Surendranagar	10,489	12,08,872	Surendranagar
22.	Valsad	5,244	21,73,672	Valsad
23.	Navsari ¹	—	—	Navsari
24.	Vadodara	7,794	30,89,610	Vadodara
25.	Dang	1,764	1,44,091	Ahwa

¹ New districts created from 2 October 1997. Area and population covered under old districts.

HARYANA

<i>Area</i>	: 44,212 sq km	<i>Population</i>	: 1,64,63,648
<i>Capital</i>	: Chandigarh	<i>Principal Language</i>	: Hindi

HISTORY AND GEOGRAPHY

Haryana has a proud history going back to the Vedic Age. The state was the home of the legendary Bharata dynasty, which has given the name *Bharat* to India. Haryana finds mention in the great epic of *Mahabharata*, Kurukshetra, the scene of the epic battle between the Kauravas and the Pandavas, is situated in Haryana. The state continued to play a leading part in the history of India till the advent of the Muslims and the rise of Delhi as the imperial capital of India. Thereafter, Haryana functioned as an adjunct to Delhi and practically remained anonymous till the First War of India's Independence in 1857. When the rebellion was crushed and the British administration was re-established, the Nawabs of Jhajjar and Bahadurgarh, Raja of Ballabgarh and Rao Tula Ram of Rewari of the Haryana region were deprived of their territories. Their territories were either merged with the British territories or handed over to the rulers of Patiala, Nabha and Jind. Haryana thus became a part of the Punjab province. With the reorganisation of Punjab on 1 November 1966, Haryana was made into a full-fledged state.

The state is bound by Uttar Pradesh in the east, Punjab in the west, Himachal Pradesh in the north and Rajasthan in the south. National Capital Territory of Delhi juts into Haryana.

AGRICULTURE

Agriculture is the mainstay of more than 80 per cent people in Haryana. The quantum of foodgrains production, which was nearly 25.92 lakh tonnes at the time of inception of the State, is likely to touch 121.09 lakh tonnes in 1999-2000. Rice, wheat, jowar, bajra, maize, barley and pulses, sugarcane, cotton, oilseeds and potato are the major crops of the State. Under the diversification of crops, more and more area is being brought under cash crops like sugarcane, cotton and oilseeds. New crops like sunflower, soyabean and fruits and vegetables are also being encouraged. Efforts are being made to encourage intensive and extensive farming in the State. The World Bank has sanctioned a total outlay of Rs 53.74 crore for a period of five years for the implementation of the Agricultural Human Resource Development (AHRD) Project in Haryana from August 1995, out of which an amount of Rs 572.76 lakh was earmarked for Agriculture Department. Up to March 2000 an amount of Rs 354.91 lakh has been spent.

INDUSTRY

The State has made rapid strides in the industrial sector. Today it ranks first in the country in the production of cars, motor cycles, tractors, sanitary wares, GI pipes, gas stoves and scientific instruments. Panipat has earned the reputation of being the "Weaver City" of India for its exquisite, hand-tufted woollen carpets and colourful handloom products. Industries have provided employment to about seven lakh persons. At the end of 1999-2000, there were 1,023 large and medium industries and 79,678 working small scale industrial units in the state. The annual exports from Haryana in 1998-99 was to the tune of Rs 4,163.21 crore.

Since economic liberation and delicensing policy of Government of India in 1991, 2,313 Industrial Entrepreneur Memoranda (IEMS) have been filed by the entrepreneurs for setting up industrial units in Haryana catalysing an investment of Rs 24,021 crore. Of these, 1,128 IEMS have been implemented. An Industrial Model Township is coming up near Manesar in Gurgaon. First phase of Growth Centre at Bawal (Rewari) has become operational while the land for another growth Centre at Saha (Ambala) has been acquired. New industrial estates at Sirsa, Bahri (Sonipat), Manakpur (Yamuna Nagar) have been developed. Prestigious projects - Maruti Udyog, Hero Honda have undertaken their expansion programme in a big way. Indian Oil Corporation is also expanding capacity of Panipat Oil Refinery from 6 mmt to 12 mmt per annum by making additional investment of Rs 3,365 crore. IOC is also setting up petrochemical complex at Panipat with an investment of Rs 4,228 crore.

IRRIGATION

Haryana is a beneficiary of the multi-purpose project in Sutlej and Beas, sharing benefits with Punjab and Rajasthan. Major irrigation projects are Western Yamuna Canal, Bhakhra Canal System and Gurgaon Canal. Haryana has raised water from lower levels to higher and drier slopes. It is a new endeavour that gave practical shape to the lift irrigation for the first time in India.

The Jui, Sewani, Loharu and Jawahar Lal Nehru lift irrigation schemes have helped to carry irrigation water against gravity flow to arid areas. Sprinkler and Drip Irrigation have been introduced in the highly undulating and sandy tracts of Haryana. The Government is taking up another Mewat lift irrigation scheme in Gurgaon district with a capacity of 800 Cs at a cost of Rs 208 crore in the Ninth Plan.

The objectives of Haryana Water Resources Consolidation Project being implemented from 1994-95 are to manage the total available water resources efficiently and economically and to improve equitable distribution of water amongst the beneficiaries by rehabilitating the existing canal and drainage system. Construction work of Hathnikund Barrage at a cost of Rs 220 crore has been completed. The state of Haryana, Uttar Pradesh and Delhi would get an additional water for irrigation purposes from the barrage.

POWER

Haryana became the first State in the country to achieve 100 per cent rural electrification in 1970. Starting with 20,000 tubewells in 1966 there were over 3.60 lakh tubewells in March 2000. Against the daily power availability of about 17 lakh units in 1966, the average availability during 1999-2000 was 415 lakh units a day. The number of consumers has increased from three lakh in 1967 to 34 lakh in 1999. The installed generation capacity has increased from 343 MW to 2783.50 MW during 1999-2000.

TRANSPORT

Roads

In Haryana all villages stand connected with metalled roads. The length of roads in the State today is 22,895 km from merely 5,100 km in 1966. Four-laning of national highway No. 1 from Murthal (Delhi border) to Shahbad has been completed and the work from Shahbad to Punjab border is in full swing. Similarly, NH-2 from Ballabgarh to Uttar Pradesh border has been completed and opened to traffic.

Railways

Rail routes from Delhi to Agra, Ajmer, Ferozepur, Amritsar, Jammu and Chandigarh cross through the State. Ambala, Panipat and Jakhal are important railway stations. There is a railway workshop at Jagadhari.

Aviation

There are five civil aerodromes in the State, viz., Pinjore, Karnal, Hissar, Bhiwani and Narnaul.

TOURIST CENTRES

Haryana has a network of 46 Tourist Complexes in the State and caters to about 67 lakh tourists every year. Some of the important tourist complexes are: Blue Jay (Samalkha), Skylark (Panipat), Chakravarty Lake and Oasis (Uchana), Parakeet (Pipli), Kingfisher (Ambala), Magpie (Faridabad), Dabchick (Hodel), Shama (Gurgaon), Jungle Babbler (Dharuhera), Gauriyya (Bahadurgarh), Myna (Rohtak), Blue Bird (Hissar), Red Bishop (Panchkula) and Pinjore Gardens (Pinjore). Surajkund and Badkhal Lake near Delhi, Sultanpur bird sanctuary (Sultanpur, Gurgaon) and Damdama in Gurgaon and fascinating pocket of pines at Morni Hills are other attractions of tourist interest. The Surajkund Crafts Mela of international fame is held every year in the month of February.

GOVERNMENT

<i>Governor</i>	: Babu Permanand	<i>Chief Secretary</i>	: R.S. Varma
<i>Chief Minister</i>	: O.P. Chautala	<i>Chief Justice</i>	: A.B. Saharya
<i>Speaker</i>	: Satbir Singh Kadian	<i>Jurisdiction of High Court</i>	: Punjab and Haryana High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.N.	District	Area (sq km)	Population	Headquarters
1.	Ambala	1,569	7,97,480	Ambala
2.	Bhiwani	5,140	11,39,718	Bhiwani
3.	Faridabad	2,105	14,77,240	Faridabad
4.	Fatehabad	2,491	6,38,162	Fatehabad

5.	Gurgaon	2,760	11,46,090	Gurgaon
6.	Hissar	3,788	12,06,472	Hissar
7.	Jhajjar	1,868	7,07,064	Jhajjar
8.	Jind	2,736	9,63,104	Jind
9.	Kaithal	2,799	8,20,685	Kaithal
10.	Karnal	2,471	10,42,141	Karnal
11.	Kurukshetra	1,217	6,41,943	Kurukshetra
12.	Mahendergarh	1,683	6,81,869	Narnaul
13.	Panchkula	816	3,19,398	Panchkula
14.	Panipat	1,250	6,77,157	Panipat
15.	Rewari	1,559	6,23,301	Rewari
16.	Rohtak	1,668	7,91,887	Rohtak
17.	Sirsa	4,276	9,03,536	Sirsa
18.	Sonepat	2,260	10,64,521	Sonepat
19.	Yamuna Nagar	1,756	8,21,880	Yamuna Nagar

HIMACHAL PRADESH

Area	: 55,673 sq km	Population	: 51,70,877
Capital	: Shimla	Principal Languages	: Hindi and Pahari

HISTORY AND GEOGRAPHY

The earliest known inhabitants of the region were tribals called *Dasas*. Later Aryans came and they assimilated in the tribes. In the later centuries, the hill chieftains accepted the suzerainty of the Mauryan empire, the Kushans, the Guptas and Kanauj rulers. During the *Mughal* period, the *Rajas* of the hill states made some mutually agreed arrangements which governed their relations. In the 19th century, Ranjit Singh annexed/subjugated many of the states. When the British came, they defeated *Gorkhas* and entered into treaties with some *Rajas* and annexed the kingdoms of others. The situation more or less remained unchanged till 1947. After Independence, 30 princely states of the area were united and the present Himachal Pradesh was formed on 15 April 1948. With the reorganisation of Punjab on 1 November 1966 certain areas belonging to it were also included in Himachal Pradesh. On 25 January 1971 Himachal Pradesh was made a full-fledged State.

The State is bordered by Jammu and Kashmir on north, Punjab on west and south-west, Haryana on south, Uttar Pradesh on south-east and by Tibet on the east.

AGRICULTURE

Himachal Pradesh, a predominantly agro-pastoral economy has over three-fourth of its working population directly engaged in these sectors. Holdings

are marginal with over 83.7 per cent farmers falling in small and marginal category and the net irrigated area accounts for one-fifth of the net sown area. Diverse agro-climate conditions afford excellent opportunities for horticulture and cash crops. Fruit production in the State has crossed the 0.84 lakh tonnes mark. The foodgrain production level is 17.02 lakh tonnes and vegetable production is five lakh tonnes. Large-scale expansion of mushroom cultivation has been undertaken. Farm activities are being supplemented by improvement in milch cattle through a cross-breeding programme, rabbitry, pisciculture and floriculture. Apart from the largest fruit-processing plant having been commissioned, a corrugated card-board carton factory has also been established for packing fruits and vegetables besides reducing consumption of coniferous timber. Forests occupy about 64 per cent of the area.

INDUSTRY

The State has made significant progress in industrialisation. Priority is now given to industries based on agro-horticulture produce, herbal resources, wool, sericulture and electronic industries. It now has 179 large and medium scale industries and about 28,000 small scale industries with an investment of Rs 2,756 crore. The annual turn-over of industrial sector in the State is approximately Rs 4,500 crore providing employment to about 1.47 lakh persons. Thirty industrial areas and 10 industrial estates have been developed in the State. One growth centre with an estimated cost of Rs 22.77 crore is being developed at Sansarpur Terrace and one Export Promotion Industrial Park with an estimated cost of Rs 20.03 crore is being developed at Baddi. Ten Handloom Development Centres covering 2,500 looms have been set up under the Centrally-sponsored scheme. 18 projects are also being implemented in Kullu and Mandi districts covering about 2,000 weavers directly by the primary weavers' cooperative societies. Sericulture industry provides subsidiary occupation to about 700 families. During 1999-2000, 1.09 lakh kg cocoons were produced.

The important minerals in the state are limestone, rock-salt, gypsum, silca, sand and baryte. About 300 mineral based industries like stone crushers, mini-cement plant, hydrated lime units, calcium carbonate units, limestone power units, etc., have been established. There are three big cement plants already in the state.

IRRIGATION

The State has limited scope for major and medium irrigation projects. During 1999-2000, an amount of Rs 16.80 crore has been provided to bring 150 hectares under major and medium irrigation schemes. Sincere efforts of the Government have been to bring more and more hectares of land under irrigation through various major, medium and minor irrigation projects. Swan Channelisation Project approved by the Government of India with a project cost of Rs 102.71 crore, will protect 2,260 hectares of agricultural land from floods and reclaim 1,000 hectares land. An additional area of 4,120 hectares has been covered under minor irrigation scheme in the last two years.

POWER

It has been estimated that about 25,000 MW of hydel power can be generated in the State by constructing various major, medium, small and mini/micro hydel projects on the five river basins. Hydel power generation in the State has been accorded top priority from the Sixth Plan onwards. All the inhabited villages of the State, were electrified by the end of June 1988.

The foundation stones were laid of 300 MW Chamara II Hydel Project in June 1999, of 2051 MW Parbati Hydel Power Project in December 1999, and of 800 MW Kol Dam project in June 2000. Other major ongoing projects are: Bhaba Augmentation Scheme, Ghanvi Hydro Electric Project (22.5 MW), Larji Hydel Project (126 MW) and Khauli Hydro Electric Project (12 MW). The State Government has given eight hydel projects for private sector participation. These are: Baspa Hydro Electric Project (300 MW); Holi Hydro Electric Project (231 MW), Dhamwari Sunda Hydro Electric Project (70 MW), Karcham Wangtoo Hydro Electric Project (1000 MW), Neogal Hydro Electric Project (15 MW), Allian Duhangan Hydro Electric Project (192 MW), Swara-Kuddu (162 MW) and Budhil (70 MW).

TRANSPORT

Roads

Himachal Pradesh has now a road length of nearly 20,276 km. It has six national highways. Out of 16,997 census villages, 7,652 villages have been connected with motorable roads.

Railways

The State has two narrow/meter gauge railway lines running from Pathankot to Joginder Nagar and Kalka to Shimla. Broad-gauge railway line from Nangal to Talwara under construction has been commissioned up to Una.

Aviation

The State has three airports at Bhuntar (Kullu Valley), Jubbarhatti (Shimla) and Gaggal (Kangra). In addition 35 helipads are available for operation in the State. The Government has decided to construct helipads at Banjararoo, Satrundi, and Khundi-Murahal in Chamba.

TOURIST CENTRES

Main tourist complexes are Shimla, Palampur, Dharamsala, Kullu-Manali, Chamba-Dalhousie. Temples at Bhima Kali, Sarahan, Hatkoti, Jwalajee, Chamunda Devi, Chintpurni, Renuka and Rewalsar, Deoth Siddh and Naina Devi are major attractions for pilgrims. Tourist complexes are also being set up at Keylong, Kaza, Sangla, Shoja, Kalpa, Khadralla, Kharapathar, Chindi, Bharmour, Chansal and Naggar castle. Hang-gliding competitions are held in Kangra valley. Solang Nallah slopes are getting popular for winter sports. There is an art gallery in Naggar and museums in Chamba, Shimla and Dharamsala. The beautiful tourist resort of Khajjair in Chamba district has been christened as the Switzerland of Himachal Pradesh.

GOVERNMENT

<i>Governor</i>	: Suraj Bhan	<i>Chief Secretary</i>	: A.K. Goswami
<i>Chief Minister</i>	: Prem Kumar Dhumal	<i>Jurisdiction of</i>	Himachal Pradesh
<i>Speaker</i>	: Gulab Singh Thakur	<i>High Court</i>	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No	District	Area (sq km)	Population	Headquarters
1.	Bilaspur	1,167	2,95,387	Bilaspur
2.	Chamba	6,528	3,93,286	Chamba
3.	Hamirpur	1,118	3,69,128	Hamirpur
4.	Kangra	5,739	11,74,072	Dharamasala
5.	Kinnaur	6,401	71,270	Reckong Peo
6.	Kullu	5,503	3,02,432	Kullu
7.	Lahaul and Spiti	13,835	31,294	Keylong
8.	Mandi	3,950	7,76,372	Mandi
9.	Shimla	5,131	6,17,404	Shimla
10.	Sirmaur	2,825	3,79,695	Nahan
11.	Solan	1,936	3,82,268	Solan
12.	Una	1,540	3,78,269	Una

JAMMU AND KASHMIR

<i>Area</i>	: 2,22,236 ¹ sq km	<i>Population</i>	: 77,18,700 ²
<i>Capital</i>	: Srinagar (Summer) Jammu (Winter)	<i>Principal Languages</i>	: Urdu, Kashmiri, Dogri, Pahari, Balti, Ladakhi, Punjabi, Gujri and Dadri

HISTORY AND GEOGRAPHY

According to a legend in *Rajtarangini* and *Nilmat Purana*, Kashmir was once a large lake. Kashyap *Rishi* drained off the water, making it an abode. But geologists have their own theory which says that geographical changes made way for the outflow of water by subsidence of the mountain at Khadianayar, Baramula. Thus emerged the Valley of Kashmir, the paradise on earth. Ashoka introduced Buddhism to Kashmir in the 3rd century BC which was later strengthened by Kanishka. Huns got the control of the Valley in the early 6th century. The Valley regained freedom in 530 AD but soon came under the rule of the Ujjain empire. After the decline of the Vikramaditya dynasty, the Valley had its own rulers. There was a synthesis of Hindu and Buddhist cultures. Lalitaditya (697-738 AD) who extended his rule up to Bengal in the

¹ Includes 78,114 sq km under illegal occupation of Pakistan, 5,180 sq km illegally handed over by Pakistan to China and 37,555 sq km under illegal occupation of China

² The population figure excludes population of areas under unlawful occupation of Pakistan and China where census could not be taken.

east, Konkan in the south, Turkistan in the north-west and Tibet in the north-east was the most famous Hindu ruler. Lalitaditya was famous for constructing buildings. Islam came to Kashmir during 13th and 14th century AD. Zain-ul-Abedin (1420-70) was the most famous Muslim ruler, who came to Kashmir when the Hindu king Sinha Dev fled before the Tatar invasion. Later Chaks overran Haider Shah son of Zain-ul-Abedin, they continued to rule till 1586 when Akbar conquered Kashmir. In 1752, Kashmir passed on from the feeble control of the Mughal emperor of the time to Ahmed Shah Abdali of Afghanistan. The Valley was ruled by the Pathans for 67 years.

Jammu has also been mentioned in the *Mahabharata*. Two recent finds of Harappan remains and artefacts of Mauryan, Kushan and Gupta periods at Akhnoor have added new dimensions to its ancient character. The land of Jammu was divided into 22 hill principalities. Raja Maldev, one of the Dogra rulers conquered many territories to consolidate his kingdom. Raja Ranjit Dev ruled over Jammu from 1733 to 1782. His successors were weak and thus Maharaja Ranjit Singh annexed the territory to Punjab. He later handed over Jammu to Raja Gulab Singh, a scion of the old Dogra ruling family, who had grown powerful among Ranjit Singh's governors and had annexed almost the whole Jammu region. The State was governed by Dogra rulers till 1947 when the Maharaja Hari Singh signed the Instrument of Accession in favour of Indian Union on 26 October 1947.

Jammu and Kashmir State is situated between $32^{\circ} 17'$ and $36^{\circ} 58'$ north latitude and $73^{\circ} 26'$ and $83^{\circ} 30'$ east longitude. Geographically, the State can be divided into four zones. First, the mountainous and semi mountainous plain commonly known as Kandi belt, the second, hills including Siwalik ranges, the third, mountains of Kashmir Valley and Pir Panchal range and the fourth is Tibetan tract of Ladakh and Kargil.

INDUSTRY

Handicrafts, being the traditional industry of the State has been receiving top priority in view of its large employment potential and also demand for handicraft goods both within and outside the country. Handicrafts production includes mainly paper-machine, wood carving, carpets, shawl-making, embroidery, etc. This industry particularly in carpets earns substantial foreign exchange. During the past four years handicrafts production increased by 140 per cent, the annual handicraft export increased from Rs 293 crore to Rs 557 crore, carpet export rose to Rs 273 crore, employing 40,000 handicraft artisans.

Handloom Development Corporation is producing woollen items like tweed, blazer, blankets, shawls, *dhusas*, Kani shawl, etc. According to a survey in 1987, the number of handloom weavers in the State was estimated at 36,827. Thereafter, the number of weavers is estimated to have risen annually by 2,000. A Rs nine crore Software Technology Park is being set up at Rangreth. The first phase of Rs 30 crore industrial growth centre, Samba has been completed and Rs 54 crore Lassipora centre is in progress. Rs 13.87 crore

Export Promotion Industrial Park is under execution at Kartholi A Rs 9.76 crore Food Park is being set up at Khunmoh. Nine industrial projects worth Rs 125.50 crore are also being set up.

AGRICULTURE

About 80 per cent of the population of the State depends on agriculture. Paddy, wheat and maize are the major crops. Barley, *bajra* and *jowar* are cultivated in some parts. Gram is grown in Ladakh. The food production increased from 13.33 lakh tonnes in 1996-97 to 16.76 lakh tonnes in 1998-99 and crossed 19 lakh tonnes in 1999-2000. About 4.85 lakh families are engaged directly or indirectly in horticulture activities. The area under orchards is 20,000 hectare. The number of poly-green houses set up is 37,000.

IRRIGATION AND POWER

A provision of Rs 205.52 crore was earmarked for irrigation and flood control including command area development programme of the State for the Eighth Plan. The area irrigated was 4.47 lakh hectare by 1996-97.

The Eighth Plan outlay for power sector was Rs 1,175.48 crore. Out of total 6,477 inhabited villages 6,241 villages were electrified up to 1995-96. The installed power capacity in 1996-97 was 396.63 MW. Work of 450 MW Baghliar hydel project has been allotted to an international consortium. Three other major projects—330 MW Kishenganga, 280 MW Uri-II and 120 MW Sewa-II will be taken up for extension in the state sector.

TRANSPORT

Roads

The road length in the State was 13,540 km in March 1998.

Railways

At present rail system extends only up to Jammu. Work on Jammu-Udhampur railway line is in progress. Survey works for extension of railway line from Udhampur to Srinagar has been approved. The survey has commenced.

Aviation

Srinagar, Jammu and Leh are major airports connecting Jammu and Kashmir with other parts of the country.

TOURIST CENTRES

Kashmir Valley is described as the paradise on earth. Chashma Shahi springs, Shalimar Bagh, Dal Lake, etc., in Srinagar; Gulmarg, Pahalgam, Sonamarg, etc., in the Valley; Vaishno Devi temple and Patnitop near Jammu are important tourist centres. In 1999, 2.17 lakh tourists visited Kashmir Valley. The number of pilgrims visiting Amarnath shrine in Kashmir went up to 1.80 lakh in 2000.

FESTIVALS

On the tenth day of the bright fortnight Assuj is celebrated as the day of

victory of Rama over Ravana. *Shivratri* festival is also celebrated in Jammu and Kashmir. Four Muslim festivals celebrated in the State are *Id-ul-Fitr*, *Id-ul-Zuha*, *Id-ul-Milad-ul-Nabi* and *Miraj Alam*. *Muharram* is also observed. The *Hemis Gumpa* festival of Ladakh is internationally known which takes place in the month of June. A special feature of the *Hemis* festival is its mask dance. In Spituk monastery in Leh, enormous statues of Goddess *Kali* are exhibited once in the year on the occasion of the annual festival which falls in January. Other festivals celebrated are *Lohri* marking a climax of winter; *Singh Sankranti* observed in Ramban and adjoining villages; *Mela Pat* observed in Bhaderwah and Kishtwar in the month of *Chaitra*.

GOVERNMENT

<i>Governor</i>	: G.C. Saxena	<i>Chief Secretary</i>	: Ashok Jaitley
<i>Chief Minister</i>	: Dr Farooq Abdullah	<i>Chief Justice</i>	: Dr B.P. Saraf
<i>Speaker</i>	: Abdul Ahad Vakil	<i>Jurisdiction of High Court</i>	: Jammu, Kashmir and Ladakh

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km) (Estimated)	Population	Headquarters
1.	Anantnag	3,984	8,26,291	Anantnag
2.	Badgam	1,371	4,97,346	Badgam
3.	Baramula	4,588	8,61,214	Baramula
4.	Doda	11,691	5,25,326	Doda
5.	Jammu	3,097	12,07,996	Jammu
6.	Kargil	14,036	81,067	Kargil
7.	Kathua	2,651	4,92,288	Kathua
8.	Kupwara	2,379	4,16,404	Kupwara
9.	Leh	82,665 ¹	89,974	Leh
10.	Pulwama	1,398	5,16,441	Pulwama
11.	Poonch	1,674	2,92,207	Poonch
12.	Rajouri	2,630	4,17,333	Rajouri
13.	Srinagar	2,228	8,92,506	Srinagar
14.	Udhampur	4,550	6,02,807	Udhampur

¹ Includes 37,555 sq km under illegal occupation of China.

KARNATAKA

<i>Area</i>	: 1,91,791 sq km	<i>Population</i>	: 4,49,77,201
<i>Capital</i>	: Bangalore	<i>Principal Language</i>	: Kannada

HISTORY AND GEOGRAPHY

Karnataka has a written history of more than 2,000 years. Apart from its subjection to the rule of the Nandas, Mauryas, and the Shatavahanas, Karnataka came to have indigenous dynasties like the Kadambas of Banavasi and the Gangas from the middle of the 4th century AD. Gomateshwara monolith at Sharavanabelagola was installed by a Ganga minister Chavundaraya. The Chalukyas of Badami (500-735 AD) ruled over a wider area, from the Narmada to the Kaveri from the days of Pulikeshi II (609-642 AD) who even defeated Harshavardhana of Kanauj. This dynasty created fine monuments at Badami, Aihole and Pattadakal, both structural and rock-cut. Aihole has been one of the cradles of temple architecture in the country. The Rashtrakutas (753-973 AD) of Malkhed who succeeded them levied tribute on the rulers of Kanauj successively in the so-called 'Age of Imperial Kanauj'. Kannada literature developed during this period. Outstanding Jain scholars of India lived in their court. The Chalukyas of Kalyana (973 to 1189 AD) and their feudatories, the Hoysalas of Halebidu built fine temples, encouraged literature and fine arts. Noted jurist Vijaneshwara (work: *Mitakshara*) lived at Kalyana. Great religious leader Basaveshwara was a minister at Kalyana. Vijayanagar empire (1336-1646) fostered indigenous traditions and encouraged arts, religion and literature in Sanskrit, Kannada, Telugu and Tamil. Overseas trade flourished. The Bahamani Sultans (Capital: Gulbarga, later Bidar) and the Bijapur Adilshahis raised fine Indo-Saracenic buildings and encouraged Urdu and Persian literature. Advent of the Portuguese resulted in the introduction of new crops (tobacco, maize, chillies, groundnut, potato, etc.). After the fall of the Peshwa (1818) and Tipu (1799), Karnataka came under the British. Christian missionaries introduced English education and printing during the 19th century. Revolution in transport, communication and industries was evidenced. The urban middle-class emerged. Mysore dynasty helped industrialisation and cultural growth. Freedom Movement was followed by the movement for the unification of Karnataka. After Independence, the new united Mysore State was created in 1956 and was renamed Karnataka in 1973.

Karnataka lies to the south of Goa and Maharashtra, to the west of Andhra Pradesh, to the west of Tamil Nadu and to the north of Kerala. It has a sea-coast of nearly 400 km (300 with inundations).

AGRICULTURE

Agriculture and allied activities account for nearly 65 per cent of the work force in the State. Out of the geographical area of 1,90,49,836 hectares, 1,25,84,462 hectares is cultivable land. Major food crops are paddy, jowar, bajra, ragi, maize, wheat and pulses. The State stands seventh in oilseed production in the country.

Horticultural crops are grown in an area of 18 lakh hectares with an annual production of 124 lakh tonnes valued at Rs 6,000 crore. The area under forests is 30,62,477 hectares which constitutes about 16.08 per cent of the total

geographical area. The State has constituted five national parks and 21 wildlife sanctuaries to conserve wildlife in general and endangered species in particular. Two project Tigers—one in Bandipur National Park and another at Bhadra wildlife sanctuary have been created to preserve the endangered tiger population.

IRRIGATION AND POWER

Karnataka has the basins of the Krishna, Cauvery, Godavari, North Pennar, South Pennar, Palar and west flowing rivers basins with a drainage area of 2,600 sq km. The average annual yield of the rivers has been estimated as 97,352 cum. The ultimate irrigation potential of the State from all sources has been estimated at about 55 lakh hectares consisting of 35 lakh hectares under major and medium, 10 lakh hectares under minor irrigation (surface) project and 10 lakh hectares under groundwater resources. Important power projects are the Kalinadi Stage-I and Stage-II, Sharavathi and Gerusoppa (Varahi) and Shivasamudram Hydro Electric Projects. The State has a thermal power station at Raichur and another diesel unit at Yelahanka near Bangalore. An Atomic Power Plant is being installed at Kaiga near Karwar. All villages in the State had been electrified by March 1989.

INDUSTRY

Karnataka contributes four per cent of the National production in the industrial sector, and 20 per cent to the State income. Public sector undertakings include Bharat Earth Movers, Bharat Electronics, Bharat Heavy Electricals, Hindustan Aeronautics Limited, Hindustan Machine Tools, Indian Telephone Industries, Wheel and Axle, New Government Electric Factory and Mangalore Chemicals and Fertilizers. There are a number of factories under joint and private sectors and also small scale industries. Some of the manufactured items include aircraft, rail coaches, telephone instruments, electronic and telecommunication equipments, glass, batteries, spark plugs, electric motors, textiles, silk, sandal oil, electrical goods, porcelain, sugar, caustic soda, paper including newsprint, capacitors, mining metal tools, cement, motor cycles, fertilizers, etc. The Visveswarajah Iron and Steel Limited, Bhadravati now owned by SAIL produces special steel, alloy and ferro silicon with a rated capacity of Iron-11,097, Manganese-1,34,585, Copper-87,802 (in tonnes); Gold-429 kg and Silver-380 kg per year. Another important project of the State is the Kudremukh Iron Ore Project at Malleshwara in Chikmagalur district. There are about 9,780 large and medium industries in the State with an investment of Rs 15,65,454 crore providing employment to about 8,68,932 persons. There are more than 2.23 lakh small scale industrial units with an investment of Rs 2,800 crore providing employment to nearly 14 lakh persons. Karnataka stands first in the production of electronic equipment and raw silk. The State is famous for its sandal soap and sandal wood oil.

MINERALS

The State is rich in mineral resources. Important minerals are high grade iron

ore, copper, manganese, chromite, china clay, limestone and magnesite. Karnataka has the distinction of being the main gold producing State in the country. It is the sole producer of Felsite and leading producer of moulding sand and Fuchsite Quartzite. The State has rich deposits of granite.

INFORMATION TECHNOLOGY

Karnataka—the Silicon State is the most favoured destination for IT and other knowledge based industries. The State has the most investor friendly policy. Recently the State announced "Mahiti", the millennium IT policy. The State has taken major initiatives in the e-governance area and plans to computerise all treasuries. 19 million land records that indicate the ownership of six million farmers have been computerised. The State has simplified labour laws for IT firms and has announced a wide range of incentives for IT parks. The State plans to network all the 77 engineering colleges, have IT in 300 colleges, 150 ITIs, 100 polytechnics and 1,000 schools. Karnataka accounts for 1/3rd of the total software exports from India.

TRANSPORT

Roads

Karnataka had 1,15,718 km (1996-97) of motorable roads including 1,997 km of national highways. The surfaced road length with 0.96 lakh km constituted 69 per cent of the total road length.

Railways

Rail network in Karnataka is 3,192 km which includes broad gauge (2,173 km), metre gauge (917 km) and narrow gauge (102 km). Nearly 300 km is under conversion.

Aviation

Bangalore, Belgaum, Mangalore and Hubli are the main airports. Direct flight facilities to major cities of India are available from Bangalore.

Ports

New Mangalore port is the main all-weather seaport in Karnataka which mainly handles cargo vessels. Special facilities for export of Kudremukh iron ore and to handle crude, coal, LPG, etc., were developed with Sea Bird project of the Indian Navy coming up near Karwar.

TOURIST CENTRES

Tourist attractions in the State are many in Bangalore with a variety of parks and industries; the former princely capital Mysore with the Brindavan Gardens and Srirangapattana nearby; Sharavanabelagola where the famous monolithic statue of Gomateshwara, 57 ft high stands; Belur, Halebidu and Somnathpura with the famous Hoysala monuments; Badami, Aihole and Pattadakal for the 1,300 year old rock-cut and structural temples; Hampi, the famous open air museum (ancient Vijayanagar); Gulbarga, Bidar and Bijapur,

renowned for their Indo-saracenic monuments; Mangalore and Karwar for ports and beaches; Gokarna, Udupi; Dharmasthala, Melkote, Gangapura and Saundatti, are famous pilgrimage centres. Tourism department has identified 212 tourist spots in the State. The capital city of Bangalore is also a tourist attraction with its famous huge granite structure *Vidhana Soudha* and the beautiful Cubbon Park and Lalbhag.

GOVERNMENT

Governor	: V.S. Rama Devi	Chief Secretary	: B.K. Bhattacharya
Chief Minister	: S.M. Krishna	Chief Justice	: Ashok Bhan
		Jurisdiction of	: Karnataka State
		High Court	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Bangalore	2,190	48,39,162	Bangalore
2.	Bangalore Rural	5,815	16,73,194	Bangalore
3.	Belgaum	13,415	35,84,000	Belgaum
4.	Bellary	9,885	18,90,092	Bellary
5.	Bidar	5,448	12,56,000	Bidar
6.	Bijapur	17,069	29,28,000	Bijapur
7.	Chikmagalur	7,201	10,17,283	Chikmagalur
8.	Chitradurga	10,852	21,80,443	Chitradurga
9.	Dakshina Kannada	8,441	26,94,264	Mangalore
10.	Dharwad	13,738	35,03,150	Dharwad
11.	Guibarga	16,224	25,82,169	Guibarga
12.	Hassan	6,814	15,69,684	Hassan
13.	Kodagu	4,102	4,88,455	Madikeri
14.	Kolar	8,223	22,16,889	Kolar
15.	Mandya	4,961	16,44,374	Mandya
16.	Mysore	11,954	31,65,018	Mysore
17.	Raichur	14,017	23,09,887	Raichur
18.	Shimoga	10,553	19,09,663	Shimoga
19.	Tumkur	10,598	23,05,819	Tumkur
20.	Uttara Kannada	10,291	12,20,260	Karwar

Note: Seven new districts, viz., Bagalkote, Devanagere, Gadag, Haveri, Koppal, Udupi and Chamarajanagara were created in 1997.

KERALA

Area	: 38,863 sq km	Population	: 2,90,98,518
Capital	. Thiruvananthapuram	Principal Language	: Malayalam

HISTORY AND GEOGRAPHY

To a large extent the ancient history of Kerala is shrouded in the mists of tradition. The most popular legend is that Kerala was raised from the depths of the ocean. Parasurama, one of the incarnations of Vishnu had waged an epic series of vengeful wars on the *Kshatriyas*. A time came, when Parasurama was struck by remorse at the wanton annihilation he had wrought. He offered severe penance atop the mountain heights. In a mood of profound atonement, the sage heaved his mighty axe into the midst of the distant ocean. Waves foamed and frothed as a crescent-shaped stretch of land extending from Gokarnam to Kanyakumari surfaced from the depths of the sea.

Kerala's culture has been an integral part of the mainstream of Indian culture. Its history is the story synthesis, assimilation and fusion of old traditions and new values in every sphere of human thought and activity. In between the high western ghats on the east and the Arabian sea on the west, the width of the State varies from 35 km to 120 km. According to the geographical features, the State can be divided into hills and valleys, midland plains and coastal belt.

AGRICULTURE

Nearly 50 per cent of the State's population depends upon agriculture. A unique feature of the State is the predominance of cash crops. Kerala is a major producer of coconut, rubber, pepper, cardamom, ginger, cocoa, cashew, arecanut, coffee and tea. Tree spices like nutmeg, cinnamon, cloves, etc., are also cultivated. Rice and tapioca are important food crops. Coconut is the most important cash crop of Kerala. Coconut production was 6,672 million nuts in 1998-99. Kerala's share in the coconut production is 41 per cent in the country. It continues to be the predominant supplier of milling copra. Banana, pineapple, mango and jackfruit are major fruit crops. The State accounts for more than 86 per cent of the area under rubber, 53 per cent under cardamom 27 per cent under coffee and 9 per cent under tea. Production of rubber was 5.92 lakh tonnes and of coffee 61,150 tonnes in 1998-99. Rice production was 7.24 lakh tonnes while the production of tea and pepper was 68,373 tonnes and 64,335 tonnes respectively during 1998-99.

INDUSTRY

Kerala is rich in industrial potentialities and infrastructure facilities such as hydro-electric power, rich forests, rare minerals like ilmenite and monozite and the efficient system of transport and communications. Traditional

industries are handloom, cashew, coir and handicrafts. Other important industries are rubber, tea, ceramics, electric and electronic appliances, telephone cables, transformers, bricks and tiles, drugs and chemicals, general engineering, plywood splints and veneers, *Beedi* and cigar, soaps, oils, fertilizers and *Khadi* and village industry products. A number of manufacturing units have also sprung-up for production of precision instruments, machine tools, petroleum and petroleum products, paints, pulp paper, newsprint, glass and non-ferrous metals. Principal export products are cashewnut, tea, coffee, spices, lemongrass oil, sea foods, rose wood and coir. The State has an abundance of important minerals like ilmenite, rutile, monazite, zircon, sillimanite, clay and quartz sand.

There were 17,719 factories in the State at the end of 1998. The number of workers employed was 4.36 lakh. Out of 34 units established up to March 1999, 27 Technoparks are in the field of Information Technology. The Software Technology Parks of India in Thiruvananthapuram are engaged in the export of computer software. Thirty-one companies with a total capital investment of Rs 6,545 lakh are functioning at Technopark in Thiruvananthapuram.

IRRIGATION AND POWER

The irrigation system in Kerala is serviced through major, medium and minor irrigation as well as ground water and command area development programmes. Major irrigation projects are Malampuzha, Chalakkudy, Peechi, Pamba, Periyar, Chittoorpuzha, Kuttiyadi, Neyyar and Chimmuni. The medium projects are Pothundy, Gayathri, Valayar, Vazhani, Mangalam and Cheerakuzhi. Construction works of seven major irrigation projects-Kallada, Pazhassi, Muvattupuzha, Idamalayar, Karappara-Kuriarkutty, Chaliar and Kanjirappuzha are in progress.

The energy generated during 1998-99 was 5,364 MW. The installed capacity by December 1999 in the State was 23,835 MW.

TRANSPORT

Roads

The length of roads in the State as on 31 March 1999 is 2,19,805 km. The national highways that pass through the State are NH 17, NH 47 and NH 49 with a total length of 1,011 km.

Railways

The State has a total railway route length of 1,050 km and covers 13 railway routes. It has 933 km of broad gauge lines and 117 km of meter gauge lines.

Aviation

There are three airports, viz., Thiruvananthapuram, Kochi and Kozhikode; of which the first two are international airports.

Ports

Among 16 ports, Kochi is the only major port in the State. There are three intermediate ports and 12 minor ports.

FESTIVALS

Kerala is the home of many colourful festivals. Most of them have a religious fervour inspired by Hindu mythology. *Onam* is the most typical Kerala festival which has now earned an all-India character. It coincides with harvest season and is an occasion of spontaneous revelry. *Onam* celebrates the home-coming of Mahabali, legendary king, who rules over Kerala in an age of plenty but was pushed down to infernal regions by *Vishnu* in the form of *Vamana*. It is now celebrated as a national festival under government auspices. *Visu* is another festival celebrated on astronomical New Year Day. *Navarathri* is celebrated as *Saraswathi Pooja* in Kerala. *Mahashivarathri* is celebrated on the banks of Periyar river as a spectacular festival which is compared to *Kumbha Mela*. The 41-day festival which coincides with *Makaravilakku* in Sabarimala Ayyappan temple attracts lakhs of people from India and abroad. The *Vallamkali* or boat race is typical of Kerala and except Nehru Trophy Boat Race conducted in the Punnamada Lake, all the boat festivals have a religious origin. Vadakkummnatha temple at Thrissur celebrates *Pooram* festival in April every year with an impressive procession of caparisoned elephants and display of unparalleled pyrotechnics. Main Christian festivals are Christmas and Easter. Maramom convention held every year on the Pumba river bed is the biggest gathering of Christians in Asia. The Muslims celebrate *Bakrid*, *Ramzan* and *Muharram* in addition to *Jarram* and *Nercha* Festivals.

TOURIST CENTRES

Kerala has the most attractive wildlife sanctuaries at Thekkady on the banks of river Periyar, at Parambikulam in Palakkad district and at Mananthavady Sultan Batheri and at Wayanad. Kovalam is a renowned seaside resort. Padmanabaswami temple in Thiruvananthapuram is an exquisite specimen of South Indian architecture. Sabarimala temple of Lord Ayyappa is a famous pilgrim tourist centre in Pathanamthitta district. Thiruvananthapuram, the capital city is an abode of temples, mosques and churches. Veli lagoon Neyyar dam and Ponmudi the famous hill stations are the other tourist centres in and around Thiruvananthapuram. Veli provides boat-ride facilities. Kalady the birthplace of Adi Sankara, Lord Krishna Temple at Guruvayoor, Backel beach (Kasaragode), Malamppuzha at Palakkad, Pookkode lake, Kurvadweep, Pakshipathalam and Edakkal caves in Wayanad are notable tourist centres. Munnar and Peermade are the two famous hill resorts of Kerala. Back-water tourism also is fast growing in the State. The famous Kathakali centre, Kalamandalam in Thrissur district, is a place of interest for lovers of the performing arts.

GOVERNMENT

<i>Governor</i>	: Justice Sukhdev Singh Kang	<i>Chief Secretary</i>	: M. Mohan Kumar
<i>Chief Minister</i>	: E.K. Nayanar	<i>Chief Justice</i>	: A.V. Savanth
<i>Speaker</i>	: M. Vijayakumar	<i>Jurisdiction of High Court</i>	: Kerala and Lakshadweep

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Alappuzha	1,414	20,01,217	Alappuzha
2.	Ernakulam	2,407	28,17,236	Ernakulam
3.	Idukki	5,019	10,78,006	Painavu
4.	Kannur	2,996	22,51,727	Kannur
5.	Kasaragode	4,992	10,71,508	Kasaragode
6.	Kollam	2,491	24,07,566	Kollam
7.	Kottayam	2,203	18,28,271	Kottayam
8.	Kozhikode	2,345	26,19,941	Kozhikode
9.	Malappuram	3,550	30,96,330	Malappuram
10.	Palakkad	4,480	23,82,235	Palakkad
11.	Pathanamthitta	2,642	11,88,352	Pathanamthitta
12.	Thiruvananthapuram	2,192	29,46,650	Thiruvananthapuram
13.	Thrissur	3,032	27,37,311	Thrissur
14.	Wayanad	2,132	6,72,128	Kalpetta

MADHYA PRADESH

<i>Area</i>	: 4,43,446 sq km	<i>Population</i>	: 6,61,81,000
<i>Capital</i>	: Bhopal	<i>Principal Language</i>	: Hindi

HISTORY AND GEOGRAPHY

Madhya Pradesh is a centrally situated State of the country. King Ashok first of all ruled over Ujjain. A sizeable portion of Central India was part of the Gupta empire (300-500 AD.) The Muslims came into Central India in the beginning of 11th centniy. First of all Mahmud of Ghazni came over here and then Mohammad Gouri who incorporated some parts of Central India into his ruling territory of Delhi. Central India was also part of the Mughal empire. During the period between the beginning of the influence of Marathas and the death of Madhoji Scindia in 1794, Marathas were on the ascendant in Central India but later on the small states started coming into existence. These small states became the cause of perpetuation of British power in the country.

Queen Ahilyabai Holkar of Indore, the Gond Maharani Rani Kamala Dev and Queen Durgawati, etc., were some women rulers whose names have left an indelible imprint on Indian History for their outstanding rule. Madhya Pradesh came into being on 1 November 1956.

The State is surrounded by seven states. It is bounded by Rajasthan on the north west, by Uttar Pradesh on the north, by Bihar on the north-east, by Orissa on the east, by Andhra Pradesh and Maharashtra on the south and Gujarat on the west. About 23.3 per cent of the total population of the State belong to scheduled tribes. One-fifth of the total population of scheduled tribes of the country lives in Madhya Pradesh.

AGRICULTURE

Agriculture is the mainstay of State's economy as 76.8 per cent of the total population lives in rural areas. About 43.7 per cent area of the state is cultivable. Net irrigated area is 6.56 million hectares, which was 32.9 per cent of net sown area in 1998-99. Madhya Pradesh is the leading producer in the country of oilseeds, pulses, soyabean, gram and linseed. Wheat, rice, *jowar*, sugarcane, cotton, *tuar*, mustard are the other principal crops grown in the state. During 1998-99, total foodgrain production was 19.79 million metric tonne, oilseed production was 5.6 million metric tonne, soyabean production 4.47 million metric tonne, cotton 4.26 lakh bales (one bale weighs 170 kg) and production of jaggery sugar (*gur*) from sugarcane was 19.7 lakh tonne in the state.

INDUSTRY AND MINERALS

Madhya Pradesh has entered the era of high-tech industries such as petrochemicals, electronics, telecommunications, automobiles, etc. Madhya Pradesh is producing optical fibre for telecommunication needs. A large number of automobile industries have been established at Pithampur near Indore. Prominent industries in the public sector in the State are Bhilai Steel Plant, Bharat Heavy Electricals Limited at Bhopal, Bharat Aluminium Company at Korba, Security Paper Mill at Hoshangabad, Bank Note Press at Dewas, Newsprint Factory at Nepanagar and Alkaloid Factory at Neemuch. During 1998-99, 65 million metre cloth was manufactured in the handloom sector and 325 million metre cloth by the powerlooms. Total production of saleable steel in 1998-99 was 3.35 million tonne while that of aluminium was 91.8 thousand tonne. Production of cement touched 15.39 million thousand tonne mark. The state produced about 55.5 thousand tonne newsprint. An Air Cargo Complex, Indo-German Tool Room and an Inland Container Depot are being established at Pithampur.

Madhya Pradesh is the leading State in the country in mineral production. At present, 25 types of minerals are being mined in the State. The combined value of minerals produced in the State is about Rs 5,574.51 crore which is 24.46 per cent (barring oil and natural gas) of the total production of minerals in the country in 1998-99. Coal, bauxite, iron-ore, manganese-ore, rock-

phosphate, dolomite, copper-ore, limestone are being mined on a large scale. Madhya Pradesh is the only State where tin and diamonds are produced. During 1998-99, over 85.76 million tonnes of coal and 16.57 million tonnes of iron ore were produced. Production of diamond was about 34.6 thousand carats and that of bauxite 7.36 lakh tonnes. Production of lime-stone was 26.93 million tonnes and that of copper-ore 2.22 million tonnes during 1998-99. The State is famous for its traditional handicrafts and handloom cloths manufactured at Chanderi and Maheswar.

IRRIGATION AND POWER

The area under irrigation is 6.56 million hectares in 1998-99. Of this 1.27 million hectares is under paddy, 3.34 million hectares under wheat and 1.05 million hectares under pulses. Wells irrigate 56.4 per cent while canals are irrigating 26.7 per cent of area.

The installed capacity of power in the State is 4,260 MW of which 873.15 MW is hydel power. Besides, share of Madhya Pradesh in electricity generated by Central Undertakings is about 1,718 MW. So far more than 95 per cent villages numbering, 68,259 have been electrified. As many as 12.80 lakh irrigation pump sets have been energised. Facility of single-point connections has been provided to 25.06 lakh households. Concrete measures have been taken to tap non-conventional energy sources like wind, solar and bio-gas in the State. Biomass Gasifiers of 10 MW capacity are coming up in the State. A 15 MW commercial wind farm has been established near Dewas and in its first phase a 4 MW unit has been operationalised.

TRANSPORT

Roads

Total length of roads in the state in 1998-99 was over 1,00,600 km. The length of national highway in the state is 4,882 km while state highway extends to 9,882 km.

Railways

The main rail route linking northern India with southern India passes through Madhya Pradesh. Main junctions in the State are Bhopal, Bilaspur, Bina, Gwalior, Indore, Itarsi, Jabalpur, Katni, Ratlam and Ujjain. The total length of rail routes in the State is 5,761.5 km. The divisional railways headquarters are at Bhopal, Ratlam, Jabalpur and Bilaspur.

Aviation

There are airports at Bhopal, Gwalior, Indore, Khajuraho and Raipur with regular scheduled air services to Mumbai and Delhi, Varanasi and Nagpur, Raipur and Bhubaneswar.

FESTIVALS

The tribal people of Bastar celebrate *Dussehra* exhibiting their unity and faith.

Another important tribal festival is *Bhagoriya* in Jhabua marked by traditional gaiety and enthusiasm. *Shivratri* as celebrated in Khajuraho, Bhojpur, Pachmarhi and Ujjain has its own local flavour while *Ramnavami* festival in Chitrakoot and Orchha has unique sense of devotion imbued with tradition. Festivals of Orchha, Malwa and Pachmarhi bring to the fore, repertoire of culture and art of the people. Tansen Music Festival, Gwalior; Ustad Alauddin Khan Music Festival of Maihar; Kalidas Samaroh, Ujjain and festival of dances at Khajuraho make Madhya Pradesh cynosure of art lovers.

TOURIST CENTRES

Perfectly preserved medieval cities, refreshing and enchanting wildlife sanctuaries, nature at its glamorous best and some of the holiest and most revered pilgrims centres offer to the tourist, the most fulfilling experience. Tranquil beauty of Pachmarhi, glittering splendour of Marble rocks and roaring sound of Dhuandhar Fall at Bhedaghat, Kanha National Park with its unique hardgourd *Barasingha* and Bandhavgarh National Park with its forts, prehistoric caves and wildlife are only glimpses of enormous natural wealth of the state. Treasure-chest of Madhya Pradesh is overflowing with its forts, palaces, stupas, caves and monuments. Gwalior, Mandu, Datia, Chanderi, Jabalpur, Orchha, Raisen, Sanchi, Vidisha, Udaygiri, Bhimbetka, Indore and Bhopal are the places well known for their monuments of by gone era. Maheshwar, Omkareshwar, Ujjain, Chitrakoot and Amarkantak are the places which provide solace to the soul of pilgrims. The temples of Khajuraho are unique in the world. Besides, temples at Orchha, Bhojpur, Udaipur attract connoisseurs as well as pilgrims. Archaeological treasures are preserved in the museums at Satna, Sanchi, Vidisha, Gwalior, Indore Mandasaur, Ujjain, Rajgarh, Bhopal, Jabalpur, Raipur, Bilaspur, Rewa and many other places.

GOVERNMENT

Governor	: Dr Bhai Mahavir	Chief Secretary	: K.S. Sharma
Chief Minister	: Digvijay Singh	Chief Justice	: Justice Bhawan Singh
Speaker	: Shrinivas Tiwari	Jurisdiction of	: Madhya Pradesh High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1	2	3	4	5
1.	Balaghat	9,229	13,62,731	Balaghat
2.	Bastar	39,114	22,70,472	Jagdalpur
3.	Betul	10,043	11,80,527	Betul
4.	Bhind	4,459	12,14,480	Bhind
5.	Bhopal	2,772	13,50,302	Bhopal
6.	Bilaspur	19,897	37,96,553	Bilaspur

7.	Chhatarpur	8,687	11,58,853	Chhatarpur
8.	Chhindwara	11,815	15,63,332	Chhindwara
9.	Damoh	7,306	8,97,544	Damoh
10.	Datia	2,038	3,97,743	Datia
11.	Dewas	7,020	10,32,522	Dewas
12.	Dhar	8,153	13,66,626	Dhar
13.	Durg	8,537	23,98,497	Durg
14.	East Nimar	10,779	14,32,855	Khandwa
15.	Guna	11,065	13,09,451	Guna
16.	Gwalior	5,214	14,14,948	Gwalior
17.	Hoshangabad	10,037	13,65,970	Hoshangabad
18.	Indore	3,898	18,30,870	Indore
19.	Jabalpur	10,160	26,45,232	Jabalpur
20.	Jhabua	6,782	11,29,356	Jhabua
21.	Mandla	13,269	12,91,313	Mandla
22.	Mandsaur	9,791	15,55,481	Mandsaur
23.	Morena	11,594	17,07,619	Morena
24.	Narsinghpur	5,133	7,84,523	Narsinghpur
25.	Panna	7,135	6,84,721	Panna
26.	Raigarh	12,924	17,24,420	Raigarh
27.	Raipur	21,258	39,02,609	Raipur
28.	Raisen	8,466	8,77,369	Raisen
29.	Rajgarh	6,154	9,92,315	Rajgarh
30.	Rajnandgaon	11,127	14,39,524	Rajnandgaon
31.	Ratlam	4,861	9,71,309	Ratlam
32.	Rewa	6,314	15,50,140	Rewa
33.	Sagar	10,252	16,46,198	Sagar
34.	Satna	7,502	14,62,412	Satna
35.	Sehore	6,578	8,40,427	Sehore
36.	Seoni	8,758	9,99,762	Seoni
37.	Shahdol	14,028	17,43,068	Shahdol
38.	Shajapur	6,196	10,32,520	Shajapur
39.	Shivpuri	10,278	11,31,933	Shivpuri
40.	Sidhi	10,256	13,71,935	Sidhi
41.	Sarguja	22,337	20,82,930	Ambikapur
42.	Tikamgarh	5,048	9,40,609	Tikamgarh
43.	Ujjain	6,091	13,86,465	Ujjain
44.	Vidisha	2,742	9,71,097	Vidisha
45.	West Nimar	13,450	20,26,317	Khargone
46.	Badwani	-	8,32,422	Badwani
47.	Shyampur	-	4,31,480	Shyampur
48.	Dindori	-	5,83,019	Dindori
49.	Koria	-	5,00,758	Baikunthpur

50.	Jashpur	-	6,56,352	Jashpur
51.	Janjgir-Champa	-	11,10,200	Janjgir-Champa
52.	Korba	-	8,25,891	Korba
53.	Kanker	-	5,32,151	Kanker
54.	Dantewara	-	6,22,267	Dantewara
55.	Katnio	-	8,81,925	Katni
56.	Neemuch	-	5,98,339	Neemuch
57.	Umaria	-	4,20,815	Umaria
58.	Mahasamud	-	7,91,197	Mahasamund
59.	Dhamtari	-	5,87,679	Dhamtari
60.	Harda	-	3,80,762	Harda
61.	Kavardha	-	5,13,496	Kavardha

A new state of Chhattisgarh comprising the following districts of Madhya Pradesh came into existence in November 2000: Bastar, Bilaspur, Durg, Raigarh, Raipur, Rajnandgaon, Sarguja, Koria, Jashpur, Janjgir-Champa, Korba, Kanker, Dantewada, Mahasamund, Dhamtari and Kawardha.

MAHARASHTRA

Area	: 3,07,713 sq km	Population	: 7,89,37,187
Capital	: Mumbai	Principal Language	: Marathi

HISTORY AND GEOGRAPHY

The first well-known rulers of Maharashtra were the *Satavahanas* (230 BC 225 AD), who were the founders of Maharashtra, and have left a plethora of literary, epigraphic, artistic and archaeological evidence. This epoch marks tremendous development in every field of human endeavour.

Then came the *Vakatakas* who established a pan-Indian empire. Under them Maharashtra witnessed an all-sided development in the fields of learning, arts and religion. Some of the Ajanta Caves and fresco paintings reached the high-level mark during their rule. After the *Vakatakas* and after a brief interlude of the *Kalachuri* dynasty, the most important rulers were the *Chalukyas* followed by the *Rashtrakutas* and the *Yadavas* apart from the *Shilaharas* on the coast. The *Yadavas*, with Marathi as their court language extended their authority over large parts of the Deccan.

While the *Bahamani* rule brought a degree of cohesion to the land and its culture, a uniquely homogeneous evolution of Maharashtra as an entity became a reality under the able leadership of Shivaji. A new sense of *Swaraj* and nationalism was evolved by Shivaji. His noble and glorious power stalled the Mughal advances in this part of India. The *Peshwas* established the Maratha supremacy from the Deccan Plateau to Attock in Punjab.

Maharashtra was in the forefront in the freedom struggle and it was here that the Indian National Congress was born. A galaxy of leaders from

Mumbai and other cities in Maharashtra led the Congress movement under the guidance of Tilak and then Mahatma Gandhi. Maharashtra was the home of Gandhiji's movement, while Sevagram was the capital of nationalistic India during the Gandhian era.

The administrative evolution of the state of Maharashtra is the outcome of the linguistic reorganisation of the States of India, effected on 1 May 1960. The State was formed by bringing together all contiguous Marathi speaking areas, which previously belonged to four different administrative hegemonics—the district between Daman and Goa that formed part of the original British Bombay Province; five districts of the Nizam's dominion of Hyderabad; eight districts in the south of the Central Provinces (Madhya Pradesh) and a sizeable number of petty native-ruled state enclaves lying enclosed within the above areas, which later merged with adjoining districts. Located in the north centre of Peninsular India, with the command of the Arabian Sea through its port of Mumbai, Maharashtra has a remarkable physical homogeneity, enforced by its underlying geology. The dominant physical trait of the State is its plateau character. Maharashtra is a plateau of plateaus, its western upturned rims rising to form the Sahyadri Range parallel to the sea-coast and its slopes gently descending towards the east and south-east. Satpuda ranges cover northern part of the State, while Ajanta and Satmala ranges run through central part of the State. Arabian Sea guards the western boundary of Maharashtra, while Gujarat and Madhya Pradesh are on the northern side. Madhya Pradesh also covers the eastern boundary of the State. Karnataka and Andhra Pradesh are on its southern side.

AGRICULTURE

About 61 per cent of the total workers in the State depend on agriculture and allied activities. Net irrigated area is about 33.50 lakh hectare. Principal crops grown in the State are rice, *jowar*, *bajra*, wheat, *tur*, *mung*, *udid*, gram and other pulses. The State is a major producer of oilseeds. Groundnut, sunflower, soyabean are major oil seed crops. Important cash crops are cotton, sugarcane, turmeric and vegetables. The State has an area of 10.91 lakh hectares under various fruit crops like mango, banana, orange, grape, cashewnut, etc.

INDUSTRY

The State has been identified as the country's powerhouse and Mumbai, its capital as the centre point of India's financial and commercial markets. Industrial sector occupies a prominent position in the economy of Maharashtra. Food products, breweries, tobacco and related products, cotton textiles, textile products, paper and paper products, printing and publishing, rubber, plastic, petroleum and coal products, basic chemicals and chemical products, metal products and parts, machinery, electrical machinery, apparatus and appliances, and transport equipment and parts contribute substantially to the industrial production in the state.

IRRIGATION AND POWER

By the end of June 1998, 33 major, 177 medium and about 2,032 state sector minor irrigation projects had been completed. Another 27 major, 86 medium and 281 minor irrigation projects were under construction. The gross irrigated area was nearly 33.06 lakh hectares.

Maharashtra had an installed capacity of 12,248 MW in 1997-98. In 1998-99 the Plant Load Factor (PLF) in the State was 67.5 per cent and power generation was 57,973 million KWH.

TRANSPORT

Roads

Total length of roads in the State is 2,06,891 km consisting of 3,399 km of national highways, 33,223 km of state highways, 45,016 km of major district roads, 42,973 km of other district roads, and 82,280 km of village roads.

Railways

Maharashtra has 5,447 km of railway routes of which about 4,141 km is broad gauge, 500 km meter gauge and 806 km is narrow gauge.

Aviation

Maharashtra has twenty-four Air fields/airports. Of these 17 are under the control of the State Government, four are managed and controlled by the International Airport Authority/Airport Authority of India and three by the Ministry of Defence. The Airfields under the control of the State Government have no facilities for the operation of commercial flights at present.

Ports

Mumbai is the major port. There are 50 minor ports in the State.

TOURIST CENTRES

Some important tourist centres are : Ajanta, Ellora, Elephanta, Kanheri and Karla caves, Mahabaleshwar, Matheran and Panchgani, Jawhar, Malshejghat, Amboli, Chikaldara, Panhala Hill stations and religious places at Pandharpur, Nashik, Shirdi, Nanded, Audhanagnath, Trimbakeshwar, Tuljapur, Ganpatipule, Bhimashanker, Harihareshwar and Shegaon.

GOVERNMENT

Governor	: Dr P.C. Alexander	Chief Secretary	: A.L. Bongirwar
Chief Minister	: Vilas Rao Deshmukh	Chief Justice	: B.P. Singh
		Jurisdiction of	: Maharashtra and Goa
		High Court	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	Districts	Area (sq km)	Population (on '000)	Headquarters
1.	Ahmednagar	17,048	33,72,935	Ahmednagar
2.	Akola	5,429	13,51,959	Akola
3.	Amravati	12,210	22,00,057	Amravati
4.	Aurangabad	10,107	22,13,779	Aurangabad
5.	Bhandara	3,895	10,04,662	Bhandara
6.	Beed	10,693	18,22,072	Beed
7.	Mumbai City	69	31,74,889	Mumbai City
8.	Mumbai (Sub.)	534	67,51,002	Mumbai (Sub.)
9.	Buldhana	9,661	1,886,299	Buldhana
10.	Chandrapur	11,443	1,771,994	Chandrapur
11.	Dhule	8,063	14,73,170	Dhule
12.	Gadchiroli	14,412	787,010	Gadchiroli
13.	Jalgaon	11,765	31,87,634	Jalgaon
14.	Jalna	7,718	13,64,425	Jalna
15.	Kolhapur	7,685	29,89,507	Kolhapur
16.	Latur	7,157	16,76,641	Latur
17.	Nagpur	9,892	32,87,139	Nagpur
18.	Nanded	10,528	23,30,374	Nanded
19.	Nashik	15,530	38,51,352	Nashik
20.	Osmanabad	7,569	12,76,327	Osmanabad
21.	Parbhani	6,517	13,05,492	Parbhani
22.	Pune	15,643	55,32,532	Pune
23.	Raigad	7,152	18,24,816	Alibag
24.	Ratnagiri	8,208	15,44,057	Ratnagiri
25.	Sangli	8,572	22,09,488	Sangli
26.	Satara	10,480	24,51,372	Satara
27.	Sindhudurg	5,207	8,32,152	Oras
28.	Solapur	14,895	32,31,057	Solapur
29.	Thane	9,558	52,49,176	Thane
30.	Wardha	6,309	10,67,357	Wardha
31.	Yavatmal	9,892	32,87,139	Yavatmal
32.	Nandurbar	5,034	10,62,545	Nandurbar
33.	Washim	5,134	8,62,312	Washim
34.	Gondia	5,425	11,02,967	Gondia
35.	Hingoli	4,524	8,09,278	Hingoli

MANIPUR

Area : 22,327 sq km	Population : 18,37,149
Capital : Imphal	Principal Language : Manipuri

HISTORY AND GEOGRAPHY

Not much of recorded history of Manipur is available though it has been in existence since time immemorial. According to the historians, Pakhangba ascended the throne of one of the seven main principalities in 33 AD and founded a long dynasty which ruled Manipur till 1891. Manipur came under the British Rule in 1891 and later on it was merged in the Indian Union as part 'C' State on 15 October 1949. This was replaced by a Territorial Council of 30 elected and two nominated members. Later in 1963, a Legislative Assembly of 30 elected and three nominated members was established under the Union Territories Act, 1962. The status of the Administrator was raised from Chief Commissioner to the status of the Lt Governor with effect from 19 December 1969. Manipur attained full-fledged statehood on 21 January 1972. With this a Legislative Assembly consisting of 60 elected members was established.

Geographically the State is divided into two tracts: the hills comprising of five districts and the plains with four districts. It is bounded by Myanmar on the east, Nagaland on the north, Assam and Mizoram on the west and Myanmar and Mizoram on the south.

AGRICULTURE

Agriculture is the single largest source of livelihood of the majority of the rural masses and is also the mainstay of the State's economy. From a modest beginning in 1946, the State has now got sufficient number of trained manpower of its own to implement various schemes and programmes in agriculture.

FOREST

Total area under forest cover is 17,418 sq km of which 1,467 sq km fall under reserved forests while 4,171 sq km is protected forests and 11,780 sq km are unclassified forests. Manipur is the abode of *Shiroy Lily* (*Lilium Macklinae*), the paradise flower which is not found elsewhere in the world. The Dzuko valley is the only habitat of the endemic and the rarest species *Dzuko Lili* (*Lilium Chitrangada*). It is also the only home of the Brow Antlered Deer (*Cervus-eldi-eldi*) locally known as *Sangai* surviving in its natural habitat, the Keibul Lamjao, the only floating National Park in the world.

IRRIGATION

Within a short period of one-and-a-half decades of introduction of major and medium irrigation schemes in the State, remarkable progress has been made bringing 54,100 hectares, under the major and medium irrigation programme.

POWER

The installed capacity was 12.998 KW and 2,001 villages had been electrified by March 2000. Power supply position in the State showed a marked improvement with the availability of share of power from the Central Sector

Generating Station, i.e., NHPC (Loktak HE Project) and NEEPCO (Kopili HE Project, Khandong HE Project and AGBPP, Kathaiguri and AGTPP, Ramchandranagar Thermal Power Stations).

INDUSTRIES

Manipur is making rapid strides towards industrialisation and has registered 9,247 small scale industrial units providing employment to 47,157 persons with an investment of Rs 33.84 crore. Special thrust has been directed towards revitalisation of various industrial corporations and development of infrastructure. Rehabilitation of Manipur Spinning Mills Corporation Limited is on full swing by releasing Rs 217 lakh in 1999-2000 as equity share. The Manipur Cement Limited was also provided with a sum of Rs 110 lakh as equity share during, 1999-2000. The Manipur State Drugs and Pharmaceuticals Limited was provided Rs five lakh in 1999-2000. The Centre for Electronics Design and Technology has established its branch office in Imphal to provide training inputs and basic technical facilities for the prospective entrepreneurs of the State in the field of electronics and plastic industries. One Industrial Growth Centre sanctioned by the Government of India at a project cost of Rs 30 crore is coming up at Lamlai-Napet. The Government of India has also sanctioned one Export Promotion Industrial Park at Khunuta Chingjin at a project cost of Rs 15 crore; one Integrated Infrastructure Development Centre at Moreh at a project cost of Rs 5.75 crore. The Government of India has provided Rs two crore for the two Trade Centres at Moreh and Imphal.

TRANSPORT

Roads

The State has 7,667 km of roads both metalled and unmetalled as on 31 March 2000. The length of roads consists of National Highway 434 km, State Highway 1,362 km, district roads 1,946 km and village roads 3,925 km.

Railways

The State is included in the railway map of India with the opening of a rail head at Jiribam in May 1990.

Aviation

Imphal is the only airport which is linked with other stations in the region by Indian Airlines and Jet Airways. The Indian Airlines flights connect Imphal to Silchar, Aizawl, Guwahati, Calcutta and Delhi. The Jet Airways flights connect Imphal to Guwahati, Calcutta and Jorhat.

FESTIVALS

Important festivals of the State are: *Dol-Jatra*, *Lai Haraoba* *Rasa Leela*, *Chieraoba*, *Ningol Chakkouba*, *Rath-Jatra*, *Idul-Fitre*, *Imoinu Iratpa*, *Gaan Ngai*, *Lui-Ngai-Ni*, *Idul Zuha*, *Yaosang(Holi)*, *Durga Pujah*, *Mera Houchongba*, *Diwali*, *Kut* and *Christmas*, etc.

TOURIST CENTRES

Some important tourist centres in the State are : Shri Shri Govindaji Temple Khwairamband Bazar (Ima Market), War Cemeteries, Shaheed Minar, Nupi Laal (Women's War) Memorial, Imphal, Khonghampat Orchidarium, INA Memorial (Moirang), Loktak Lake, Keibul Lamjao National Park, Bishnu Temple at Bishnupur, Sendra, Moreh, Siroi Hills, Siroi Village, Dzuko Valley, State Museum, Kaina Tourist Home, Khongjom War Memorial Complex, etc.

GOVERNMENT

Governor	: Ved Marwah	Chief Secretary	: Rakesh
Chief Minister	: W. Nipamacha Singh	Jurisdiction of	: A permanent bench of the
Speaker	: Dr S. Dhananjay	High Court	Guwahati High Court, Imphal bench started functioning from 14 March 1992.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.N.	District	Area (sq km)	Population	Headquarters
1.	Bishnupur	496	1,80,773	Bishnupur
2.	Chandel	3,313	71,014	Chandel
3.	Churachandpur	4,570	2,76,184	Churachandpur
4.	Imphal West	1,228	3,80,801	Lamphel
5.	Senapati	3,271	2,08,406	Senapati
6.	Imphal East	—	3,30,460	Porompat
7.	Tamenglong	4,391	86,278	Tamenglong
8.	Thoubai	514	2,93,958	Thoubai
9.	Ukhrul	4,544	1,09,275	Ukhrul

MEGHALAYA

Area	: 22,429 sq km	Population	: 17,74,778
Capital	: Shillong	Principal Languages	: Khasi, Garo and English

HISTORY AND GEOGRAPHY

Meghalaya was created as an autonomous State within the State of Assam on 2 April 1970. The full-fledged State of Meghalaya came into existence on 2 January 1972. It is bound on the north and east by Assam and on the south and west by Bangladesh. Meghalaya literally meaning the abode of clouds is essentially a hilly state. It is predominantly inhabited by the Khasis, the Jaintias and the Garos tribal communities. The Khasi Hills and Jaintia Hills which form the central and eastern parts of Meghalaya is an imposing plateau

with rolling grassland, hills and river valleys. The southern face of the plateau is marked by deep gorges and abrupt slopes, at the foot of which, a narrow strip of plain land runs along the international border with Bangladesh.

AGRICULTURE AND IRRIGATION

Meghalaya is basically an agricultural State in which about 80 per cent of its total population depend primarily on agriculture for their livelihood. The State has a vast potential for developing horticulture due to agroclimatic variations which offer much scope for cultivation of temperate, sub-tropical and tropical fruits and vegetables.

Besides the major food crops of rice and maize, Meghalaya is renowned for its oranges (Khasi Mandarin), pineapple, banana, jackfruits, temperate fruits like plum, pears and peaches, etc. Cash crops, popularly and traditionally cultivated include potato, turmeric, ginger, black pepper, arecanut, betelvine, tapioca, short staple cotton, jute and mesta, mustard and rape. Special emphasis is presently laid on non-traditional crops like oilseeds (groundnut, soyabean and sunflower), cashewnut, tea and coffee, mushroom, medicinal plants, orchids and commercial flowers.

The estimated irrigation potential of the State both from surface and ground water is about 2.18 lakh hectare, the potential created so far is 55,182 hectare.

INDUSTRY AND MINERALS

The public sector cement factory at Cherrapunjee has been re-activated to raise the production to 1,65,000 mt per annum. The tantalum capacitor unit of the Meghalaya Electronics Development Corporation at Umiang-Khawan is in production. The mini cement plants at Damas and Sutnga have gone into production. The number of small scale industrial units is increasing. The Meghalaya Industrial Development Corporation (MIDC) is assisting the industrial units by way of term loans and also by participating in equity capital.

Mineral wealth of Meghalaya include coal, silimanite, limestone, dolomite, fire-clay, felspar, quartz and glass-sand. The total estimated reserve of coal in the State is 562 million tonnes and that of limestone is around 4,500 million tonnes.

FESTIVALS

A five-day-long religious festival of the Khasis Ka Pamblang Nongkrem popularly known as *Nongkrem* dance is held annually at village Smit, 11 km from Shillong. *Shad Sukmynsiem* another important festival of the Khasis is held at Shillong during the second week of April. *Behdiengkhlam*, the most important and colourful festival of the Jaintias is celebrated annually at Jowai in Jaintia Hills in July. *Wangala* festival is observed for a week to honour Saljong (Sungod) of the Garos during October-November.

TOURIST CENTRES

Meghalaya is dotted with a number of lovely tourist spots where nature unveils herself in all her glory. Shillong, the capital city, has a number of beautiful spots. They are : Ward's Lake, Lady Hydari Park, Polo Ground, Mini Zoo, Elephant Falls and Shillong peak overlooking the city and the golf course which is one of the best in the country.

TRANSPORT

Roads

Three national highways pass through Meghalaya covering 456.54 km. The State has 8,480 km of both surfaced and unsurfaced roads.

Aviation

The only airport in the State at Umroi, 35 km from Shillong is yet to function.

GOVERNMENT

<i>Governor</i>	: M.M. Jacob	<i>Chief Secretary</i>	: J.P. Singh
<i>Chief Minister</i>	: E.K. Mawlong	<i>Jurisdiction of High Court</i>	: Falls under the jurisdiction of Guwahati High Court. There is a High Court Bench at Shillong.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	East Garo Hills	2,603	1,88,830	Williamnagar
2.	East Khasi Hills	2,748	5,37,906	Shillong
3.	Jaintia Hills	3,819	2,20,473	Jowai
4.	West Garo Hills	3,714	4,03,027	Tura
5.	West Khasi Hills	5,247	2,20,157	Nongstoin
6.	Ri-Bhoi	2,448	1,27,312	Nongpoh
7.	South Garo Hills	1,850	77,073	Baghmara

MIZORAM

<i>Area</i>	: 21,081 sq km	<i>Population</i>	: 6,89,756
<i>Capital</i>	: Aizawl	<i>Principal Languages</i>	: Mizo and English

HISTORY AND GEOGRAPHY

Mizoram is a mountainous region which became the 23rd state of the Indian Union in February 1987. It was one of the districts of Assam till 1972 when it became a Union Territory. After being annexed by the British in 1891, for the first few years, Lushai Hills in the north remained under Assam while the southern half remained under Bengal. Both these parts were amalgamated

in 1898 into one district called Lushai Hills District under the Chief Commissioner of Assam. With the implementation of the North-Eastern Reorganisation Act in 1972, Mizoram became a Union Territory and as a sequel to the signing of the historic memorandum of settlement between the Government of India and the Mizo National Front in 1986, it was granted statehood on 20 February 1987. Sandwiched between Myanmar in the east and the south and Bangladesh in the west, Mizoram occupies an area of great strategic importance in the north-eastern corner of India. Mizoram has great natural beauty and an endless variety of landscape. It is rich in fauna and flora.

The origin of the word 'Mizo' is not known. The Mizos came under the influence of the British Missionaries in the 19th century. Now most of the Mizos are Christians. Mizo language has no script of its own. The missionaries introduced the Roman script for Mizo language and formal education.

AGRICULTURE

About 60 per cent of the people of Mizoram are engaged in agricultural pursuits. The main pattern of agriculture followed is *jhum* or shifting cultivation. Out of the estimated potential available area of 4.4 lakh hectares for horticulture, the area put under plantation is around 25,000 hectares only. The main horticulture crops are oranges, lemon, *kagzi* lime, passion fruits, *hatkora*, *jamir*, pineapple and papaya. Other crops are sugarcane, tapioca and cotton. With the processing unit coming up such as the Ginger Dehydration Plant at Sairang and fruit juice concentration plants, people have started extensive cultivation of ginger and fruit crops.

IRRIGATION

The ultimate surface irrigation potential is estimated at 70,000 hectares of which 45,000 hectares is under flow and 25,000 hectares for river lift irrigation. The irrigated area has now gone up to 7,260 hectares by constructing and completing 69 *pucca* minor irrigation projects for raising double and triple crops in a year.

INDUSTRY

The entire Mizoram is a Notified Backward Area and is categorised under 'No Industry District'. However, concerted efforts were made in the last decade to accelerate the growth of industries in Mizoram. For the development of industries in the state, Government framed industrial policy in 1989. In the policy resolution priority industries identified are: agro and forest-based industries, followed by handloom and handicrafts, electronics, consumer industries. Sericulture is operating at Aizawl with two wings, viz., handloom and handicrafts wing and geology and mining wing.

The completed projects of Ginger Oil and Oleoresin Plant and Ginger Dehydration Plant at Sairang, Fruit Preservation Factory at Vairengte, Mizo Milling Plant at Khawzawl and Fruit Juice Concentrate Plant at Chhingchhip

were transferred to the incorporated Mizoram Food and Allied Industries Corporation (MIFCO) for commercial operation. Maize Milling Plant also has been completed and commissioned by MIFCO.

Development of tea industry/gardens and raising of Tooklai approved varieties of ten seedlings has been taken up by the Government around Biate areas.

POWER

Construction of Tuirial Hydel Project capable of generating 60 MW is in progress. DPR of Kolodyne Phase I having a capacity of 120 MW has been handed over to the State Government by Brahmaputra Board and CWC. A 3 MW Teirei Hydel Project was commissioned and 23 diesel power houses have been functioning. A total of 695 villages have been electrified and 577 km of 132 KV line completed.

TRANSPORT

Total road length in the State is 3,954 km. Rail link in the State has been established at Bairabi. Aizawl is connected by air. State PWD has completed metalling and black topping of 2,103 km.

FESTIVALS

Mizos are basically agriculturists. All their activities centre round *jhum* cultivation and their festivals are linked with such agricultural operations. *Kut* is the Mizo word for festivals. Mizos have three major festivals called *Chapchar Kut*, *Mim Kut* and *Pawl Kut*.

TOURIST CENTRES

Aizawl located at nearly 4,000 feet above sea-level, is a religious and cultural centre of Mizoram. Champhai is a beautiful resort on the Myanmar border. Tamdil a natural lake with virgin forest is 60 km from Aizawl and 10 km from tourist resort of Saitual. Vantawng falls, five km from hill station Thenzawl, are the highest and most beautiful waterfalls in Mizoram. The Department of Tourism has opened Tourist Lodge at Aizawl, Lunglei, Champhai and wayside restaurants at Thingdawl, Hnahthial, recreational centre at Beraw Tlang and Alpine picnic hut at District Park near Zobawk.

GOVERNMENT

Governor	: A. Padmanaban	Chief Secretary	: H.V. Lalrnga
Chief Minister	: Zoramthanga	Jurisdiction of	: Falls under the jurisdiction of
Speaker	: R. Lalawia	High Court	Guwahati High Court There is a bench at Mizoram

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Aizawl	12,581	4,78,465	Aizawl
2.	Lunglei	4,536	1,11,415	Lunglei
3.	Chhimitupui	3,957	99,886	Saiha
4.	Lawngtlai	-	-	Lawngtlai
5.	Champhai	-	-	Champhai
6.	Kolasib	-	-	Kolasib
7.	Mamit	-	-	Mamit
8.	Serchhip	-	-	Serchhip

NAGALAND

Area	: 16,579 sq km	Population	: 12,09,546
Capital	: Kohima	Principal Languages	: Angami, Ao, Chang, Konyak, Lotha, Sangtam, Sema and Chakhesang.

HISTORY AND GEOGRAPHY

Like other inhabitants of the north-eastern region, the Nagas too have their share of legend and folklore regarding their origin and evolution through the ages. Nagas are basically tribal people and every tribe had its own effective system of self-governance from time immemorial. In the 12th and 13th centuries, gradual contact with the Ahoms of present day Assam was established but this did not have any significant impact on the traditional Naga way of life. However, in the 19th century the British appeared on the scene and ultimately the area was brought under British administration. After Independence this territory was made a Centrally administered area in 1957, administered by the Governor of Assam. It was known as the Naga Hills Tuensang Area. This failed to quell popular aspirations and unrest began. Hence in 1961, this was renamed as Nagaland and given the status of State of the Indian Union which was formally inaugurated on 1 Decemebr 1963. Situated in the extreme north-east of the country, Nagaland is bounded by Arunachal Pradesh in the north, Assam in west, Manipur in south and Myanmar in the east.

AGRICULTURE

Agriculture is the main occupation of 84.45 per cent of population in the State. Rice is the important foodgrain. Area under *jhum* cultivation is about 84,800 hectare and under terraced cultivation there was 63,700 hectare during 1999-2000.

INDUSTRY

The process of industrialisation in the State is in infancy but the need to have more industries has been well recognised. The Nagaland Sugar Mill at

Dimapur has an installed capacity of 1,000 tonnes per day. There is a pulp and paper mill at Tuli and a plywood factory at Tizit. Handloom and handicrafts are important cottage industries which are mainly being managed by cooperative societies. An industrial growth centre near Dimapur is under construction. The Nagaland Industrial Development Corporation is the premier promotional organisation in providing guidance and capital assistance to entrepreneurs. The mini-cement plant at Wazeho has commenced production. The fruits and vegetables processing and cold storage Plant at Dimapur has an installed capacity of 5 MT per day.

IRRIGATION AND POWER

Minor irrigation works are mostly meant to divert small hill streamlets to irrigate valleys used for rice cultivation. Under minor irrigation, surface minor irrigation covered 6,736.76 hectare during 1999-2000. Number of electrified villages stands at 1,196. Nagaland has achieved cent per cent electrification of rural areas. A 24 megawatt hydro-electric project is under erection at Likhimro. A 75 mega watt hydro-electric project at Doyang will be commissioned shortly.

TRANSPORT

Roads

Total length of roads in Nagaland is 9,860 km.

Railways/Aviation

Dimapur is the only place where rail and air services are available. There is a tri-weekly Indian Airlines service connecting Dimapur with Guwahati and Calcutta.

FESTIVALS

Some of the important festivals are *Sekrenyi*, *Moatsu*, *Tuluni* and *Tokhu Emong*. All tribes celebrate their distinct seasonal festivals with a pageantry of colour and a feast of music.

GOVERNMENT

Governor	: O.P. Sharma	Chief Secretary	: A.M. Gokhale
Chief Minister	: S.C. Jamir	Jurisdiction of	: Falls under Jurisdiction of
Speaker	: Zorehu Lohe	High Court	Guwahati High Court There is a bench at Kohima.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Kohima	4,041	3,87,581	Kohima
2.	Mokokchung	1,615	1,58,374	Mokokchung

3.	Mon	1,786	1,49,699	Mon
4.	Phek	2,026	1,02,156	Phek
5.	Tuensang	4,228	2,32,906	Tuensang
6.	Wokha	1,628	82,612	Wokha
7.	Zunheboto	1,255	97,218	Zunheboto
8.	Dimapur	-	-	Dimapur

ORISSA

Area	: 1,55,707 sq km	Population	: 3,16,59,736
Capital	: Bhubaneswar	Principal Language	: Oriya

HISTORY AND GEOGRAPHY

Orissa, the land of Oriyas, was known as Kalinga in ancient days. In the third century BC (261 BC) Ashoka the Mauryan emperor, sent a powerful force to conquer Kalinga which offered stubborn resistance. Kalinga was subdued but the carnage which followed, struck Ashoka with remorse. After the death of Ashoka, Kalinga regained its independence. In the second century BC, it became a powerful country under Kharavela. With the death of Kharavela, Orissa passed into obscurity. In the fourth century AD, Samudragupta invaded Orissa which lay astride his path and overcame resistance offered by five of its kings. In 610 AD, Orissa came under the sway of King Sasanka. After Sasanka's death, Harsha conquered Orissa.

Orissa had its own rulers (Ganga dynasty) in the seventh century AD. In 795 AD, Mahasivagupta Yajati II came to the throne and with him began the most brilliant epoch in the history of Orissa. He united Kalinga, Kangoda, Utkal and Koshala in the imperial tradition of Kharavela. Under the kings of Ganga dynasty, Orissa continued to flourish. Narasingha Dev of this dynasty is reputed to have built the unique Sun Temple of Konark. From mid-16th Century, Orissa was ruled successively by five Muslim kings till 1592, when Akbar annexed it into the Mughal empire. With the decline of the Mughal empire, Marathas occupied Orissa. They continued to hold it till the British took over in 1803.

Orissa was made into a separate province on 1 April 1936. After Independence, princely states in and around Orissa surrendered their sovereignty to the Government of India. By the States Merger (Governor's provinces) Order, 1949 the princely states of Orissa were completely merged with the state of Orissa in January 1949. Although the state of Orissa had many ancient names like Kalinga, Utkal and Udra, it is widely known as the land of Lord Jagannath. Lord Jagannath is intimately connected with the social, cultural and religious life of Orissa. Jainism, Islam and Christianity had considerable impact on the people of Orissa in different periods.

Orissa is situated in the north-eastern part of the Indian peninsula. It is bound by the Bay of Bengal on the east, West Bengal on the north-east,

Bihar on the north, Madhya Pradesh on the west and Andhra Pradesh on the south. The state may be broadly divided into four geographical regions—the northern plateau, central river basin, eastern hills and coastal plains.

AGRICULTURE

Agriculture is the dominant sector in the State's economy. Sixty-four per cent of the working population is engaged either directly or indirectly in this sector. Rice is the main crop and its production during the year 1998-99 was 53.9 lakh metric tonnes. Sugarcane is the main cash crop. Production of oilseeds during 1998-99 was 1.77 lakh metric tonnes.

IRRIGATION AND POWER

The irrigation potential has been created through major, medium and minor irrigation, lift irrigation and water harvesting projects up to 24.69 lakh hectares by 1998-99. The Government has adopted some strategies for modernisation of present irrigation system.

The total installed capacity of power in state sector during 1998-99 was 4,020.33 MW. The power available from all sources was 1,206.73 MW. Out of 46,989 villages in the State 34,442 villages have been electrified by 1998-99.

INDUSTRY

The Industrial Promotion and Investment Corporation Limited, Industrial Development Corporation Limited and Orissa State Electronics Development Corporation are three nodal agencies promoting large and medium industries in the state. By the end of 1998-99 Orissa had 334 large and medium industries. The State is providing institutional and financial support with various incentives and concessions for promotion of small scale, village and cottage industries. There were 59,079 small scale industries in the State by the end of 1998-99.

TRANSPORT

Roads

The length of different categories of roads in the state is as follows: 2,484 km national highways, 67 km express highway, 3,977 km state highways, 9,133 km district roads and 24,552 km village roads.

Railways

The total railways route length in the state by the end of 1998-99 was 2,317 km consisting of 2,173 km broad-gauge and 144 km narrow-gauge lines.

Aviation

The expansion and modernisation of Bhubaneswar airport is in progress. Direct link is available from Bhubaneswar to places like Delhi, Calcutta, Chennai, Nagpur and Hyderabad. There are 17 air strips and 17 helipads at different places of the State.

Ports

Paradeep is the only major port of the state. The improvement of Gopalpur to an all weather port is in progress. The State Government has decided to build a Mega Port at Dhamara by private investment. The State Government is providing inland water transport services through motorised launches in different inaccessible areas.

TOURIST CENTRES

Bhubaneswar is famous for the Lingaraj Temple while Puri is famous for the temple of Lord Jagannath and its beautiful sea beach. Other places of tourist interest are Konark, Nandankanan, Chilika Lake, Dhauli Buddhist Temple, Udaygiri-Khandagiri ancient caves, Ratnagiri Lalitgiri and Udaygiri Buddhist images and ancient caves, Saptasajya scenic view of hill-beds, Similipal National Park and Tiger Project, Hirakud Dam, Duduma Water Falls, Ushakothi Wildlife Sanctuary, Gopalpur Sea beach, Hari Shankar, Nrusinghanath, Taratarini, Taptapani, Bhiton Kanika, Bhimakunda, Kapilash, etc.

GOVERNMENT

Governor	: M.M. Rajendran	Chief Secretary	: S.M. Patnaik
Chief Minister	: Naveen Patnaik	Chief Justice	: Biswanath Agrawal
Speaker	: Sharat Kumar Kar	Jurisdiction of	: Orissa
		High Court	

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1	Angul	6,347	9,61,037	Angul
2.	Balasore	3,706	16,96,583	Balasore
3.	Bolangir	6,552	12,30,938	Bolangir
4.	Boudh	4,289	3,17,622	Boudh
5.	Bhadrak	2,788	11,05,834	Bhadrak
6.	Bargarh	5,832	12,07,172	Bargarh
7.	Cuttack	3,915	19,72,739	Cuttack
8.	Deogarh	2,781	2,34,238	Deogarh
9.	Ganjam	8,033	27,04,056	Chatrapur
10.	Dhenkanal	4,597	9,47,870	Dhenkanal
11.	Gajapati	3,056	4,54,708	Parlakhemundi
12.	Jagatsinghpur	1,759	10,14,242	Jagatsinghpur
13.	Jajpur	2,885	13,86,177	Panikoili
14.	Jharsuguda	2,202	4,46,726	Jharsuguda
15.	Keonjhar	8,336	13,37,026	Keonjhar
16.	Kalahandi	8,197	11,30,903	Kalahandi
17.	Koraput	8,534	10,29,986	Koraput
18.	Kendrapara	2,546	11,49,501	Kendrapara

19.	Khurda	2,888	15,02,014	Khurda
20.	Mayurbhanj	10,410	18,84,580	Baripara
21.	Malkangiri	6,115	4,21,917	Malkangiri
22.	Nawarangpur	5,135	8,46,659	Nawarangpur
23.	Nayagarh	3,954	7,82,647	Nayagarh
24.	Nawapara	3,408	4,69,482	Nawapara
25.	Puri	3,055	13,05,365	Puri
26.	Kandhamal	6,004	5,46,281	Phulbani
27.	Rayagada	7,585	7,13,984	Rayagada
28.	Sambalpur	6,702	8,09,017	Sambalpur
29.	Sundargarh	9,942	15,73,617	Sundargarh
30.	Sonepur	2,284	4,76,815	Sonepur

PUNJAB

Area	: 50,362 sq km	Population	: 2,02,81,969
Capital	: Chandigarh	Principal Language	: Punjabi

HISTORY AND GEOGRAPHY

Ancient Punjab formed part of the vast Indo-Iranian region. In later years it saw the rise and fall of the Mauryans, Bactrians, Greeks, Sakas, Kushans and Guptas. Medieval Punjab saw a supremacy of the Muslims. Ghaznavi was followed by the Ghoris, the slaves, the Khiljis, the Tughlaks, the Lodhis and the Mughals. Fifteenth and sixteenth centuries mark a period of watershed in the history of Punjab. Through teachings of Guru Nanak, *Bhakti* movement received a great impetus. *Prima facie*, Sikhism was a socio-religious movement which was more interested in fighting evils in religion and society. It was Guru Gobind Singh, the tenth Guru who transformed the Sikhs into the *Khalsa*. They rose to challenge tyranny and after centuries of servitude established a human *Punjabi Raj* based on secularism and patriotism. Ranjit Singh has in the words of a Persian writer changed Punjab from *Madam-Kada* to *Bagh-i-bahisht* from the abode of sorrow to the garden of paradise. But soon after his death, the entire edifice collapsed on account of internal intrigues and British machinations. After two abortive Anglo-Singh wars, Punjab was finally annexed to the British Empire in 1849.

The fight against British rule had begun long before Mahatma Gandhi's arrival on the scene. The revolt found expression through the movement of a revivalist or reformist character. First, it was the Namdhari sect which believed in self-discipline and self-rule. Later, it was Lala Lajpal Rai who played a leading role in the Freedom Movement. Punjab was in the vanguard of India's freedom struggle on all fronts in India and abroad. Punjab's tale of woe did not culminate with Independence and it had to face the holocaust of Partition along with displaced persons with harrowing memories. Besides their rehabilitation, there was the task of reorganisation of the State.

Eight princely states of East Punjab were grouped together to form one

single state called PEPSU-Patiala and the East Punjab States Union with Patiala as its capital. PEPSU state was merged with Punjab in 1956.

Situated in north-western corner of the country, Punjab is bound on the west by Pakistan, on north by Jammu and Kashmir, on north-east Himachal Pradesh and on south by Haryana and Rajasthan.

AGRICULTURE

Agriculture is the mainstay of Punjab's economy. Nearly 86 per cent of the total geographical area of the State is under cultivation. Punjab alone contributed 58 per cent of rice to the Central pool in 1999-2000 marketing year, despite the fact that it comprises only 1.53 per cent of the total area of the country. Besides wheat and rice, other main crops are maize, gram and pulses. Production of foodgrains during 1999-2000 is likely to be 252 lakh tonnes. Mushrooms, honey, chillies, potato chips and tomato paste are exported from Punjab.

INDUSTRY

There are 1.99 lakh small scale units in the State. These units produce bicycle parts, sewing machines, hand tools, machine tools, auto parts, electronic items, sports goods, surgical and leather goods, hosiery, knitwear, nuts and bolts, textiles, sugar, vegetable oil, etc., giving employment to 8.80 lakh persons. As on 31 March 2000 there are 626 large and medium scale units providing employment to about 2.30 lakh persons. A large number of Information Technology and Software Development Companies are coming up in the State. With the setting up of Earth Station in Mohali and with laying of fibre optic backbone in the State basic infrastructure has been established for the growth of Information Technology industry. An Information Technology Park is also being set-up in Mohali. Punjab is one of the four States in the country to have been provided internet connectivity with Technology Bureau for International Industrial Partnerships in New Delhi and further to Centres of advanced technologies across the globe under UNIDO assisted programmes. This will facilitate the industrial units of Punjab to acquire modern technologies and to finalise technology partnership proposal.

IRRIGATION AND POWER

The construction of Bhakra Nangal Complex, including Bhakra Dam, Bhakra Main Line, Nangal Hydel Channel, Ganguwal and Kotla Power House, Harike Barrage, Sirhind Feeder, remodelling of Madhopur Headworks into Barrage, etc., have been some of the major hydroelectric projects which have played a significant role in considerably enhancing the irrigation and power potential of the State. Madhopur-Beas Link was constructed to transfer surplus water of Ravi to Beas. A similar Beas-Sutlej Link Project envisages the utilisation of the Beas water for the production of electricity at Slapper and then transferring its water to Gobind Sagar lake. The Mukerian Hydel Electric Project and Beas-Sutlej Link Projects are two important irrigation and power projects.

On the Irrigation front, about 60 per cent of the total irrigated land is served by tubewells, the remaining 40 per cent is irrigated through canals, etc.

Presently, the Punjab State Electricity Board has 2,677 MW of installed capacity from its own thermal power plants. Another thermal plant by the name of Guru Hargobind Thermal Power Plant operating 2x210 MW capacity was commissioned during 1998-99 at Lehra Mohabbat near Bathinda. The rice straw thermal power plant at Jalkheri is the first of its kind in India with a generating capacity of 10 MW. There is 100 per cent electrification in Punjab.

Sri Anandpur Sahib has been developed by the PEDDA as the First Solar city of India on the occasion of Tri-centenary celebrations of 'the Birth of Khalsa'. Three photovoltaic power plants each of 5 KW capacity have been set up at the three important historic Gurudwaras. In addition, 350 solar streets have been installed in 14 nearby villages. The Government of India has allocated a grant of Rs 38 crore for setting up of "S. Swaran Singh National Institute of Renewable Energy" near Jalandhar.

TRANSPORT

Roads

The road length in Punjab is 44,076 km out of which provincial roads are 42,589 km while national highways are 1,487 km. All villages of the state have been linked with metalled roads.

Railways

The length of the rail routes passing through the State is around 3,726.06 km. Rail communication with Pakistan also emanates from Punjab (Amritsar).

Aviation

There are three Civil Aviation Clubs at Bathinda, Ludhiana and Patiala; one flying club at Jalandhar, one domestic airport at Chandigarh; International Airport at Rajasansi (Amritsar) and two aerodromes at Patiala and Sahnewal (Ludhiana).

FESTIVALS

Besides festivals of *Dussehra*, *Diwali*, *Holi*, other important festivals/fairs/melas are *Baisakhi*, *Hola Mohalla*, *Basant*, *Maghi Mela*, etc.

TOURIST CENTRES

The Punjab Tourism Development Corporation owns a chain of 32 tourist complexes and holiday homes. The State has a large number of places of tourist interest some of which include Golden Temple, Durgiana Mandir and Jallianwala Bagh in Amritsar, Takhat Keshgarh Sahib, Anandpur Sahib, Bhakra Dam, wet land Harike Pattan, Sangol for archaeological importance and Chatbir Zoo, Mughal Monument Complex Aam Khas Bagh and Roze Sharif of Sheikh Ahmed at Sirhind with graves of Afghan rulers, Sodal temple

at Jalandhar and Ram Tirath commemorative Maharishi Balmiki's heritage which is being recognised as a venue for a national festival.

GOVERNMENT

Governor	: Lt. Gen. (Retd.) J.F.R. Jacob	Chief Justice	: Justice A.B. Saharya
Chief Minister	: Sardar Parkash Singh Badal	Chief Secretary	: Sardar R.S. Mann
		Jurisdiction of High Court	: Punjab and Haryana High Court, Chandigarh

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Amritsar	5,075	25,03,165	Amritsar
2.	Bathinda	3,377	9,79,566	Bathinda
3.	Faridkot	1,472	4,51,406	Faridkot
4.	Fatehgarh Sahib	1,180	4,62,693	Fatehgarh Sahib
5.	Firozpur	5,865	16,06,092	Firozpur
6.	Gurdaspur	3,570	17,57,808	Gurdaspur
7.	Hoshiarpur	3,310	12,98,185	Hoshiarpur
8.	Jalandhar	2,658	16,47,492	Jalandhar
9.	Kapurthala	1,646	6,48,516	Kapurthala
10.	Ludhiana	3,744	24,26,883	Ludhiana
11.	Mansa	2,174	5,80,397	Mansa
12.	Moga	1,672	6,26,391	Moga
13.	Muktsar	2,596	6,53,079	Muktsar
14.	Nawan Shehar	1,258	5,31,253	Nawan Shehar
15.	Patiala	3,627	15,21,330	Patiala
16.	Roop Nagar	2,117	9,02,264	Roop Nagar
17.	Sangrur	5,021	16,85,449	Sangrur

RAJASTHAN

Area	: 3,42,239 sq km	Population	: 4,40,05,990
Capital	: Jaipur	Principal Languages	: Hindi and Rajasthani

HISTORY AND GEOGRAPHY

Rajasthan, the second largest State in India area-wise prior to Independence was known as Rajputana or the home of Rajputs - a martial community who ruled over this area for centuries.

The history of Rajasthan dates back to the pre-historic times. Around 3000 and 1000 BC, it had a culture akin to that of the Indus Valley civilisation. It were the Chauhans who dominated Rajput affairs from seventh century

and by 12th century they had become an imperial power. After the Chauhans, it were the Guhilots of Mewar who controlled the destiny of the warring tribes. Besides Mewar, the other historically prominent states were Marwar, Jaipur, Bundi, Kota, Bharatpur and Alwar. Other states were only offshoots of these. All these states accepted the British Treaty of Subordinate Alliance in 1818 protecting the interest of the princes. This naturally left the people discontented.

After the revolt of 1857, the people united themselves under the leadership of Mahatma Gandhi to contribute to the freedom movement. With the introduction of provincial autonomy in 1935 in British India, agitation for civil liberties and political rights became stronger in Rajasthan. The process of uniting scattered states commenced from 1948 to 1956 when the States Reorganisation Act was promulgated. First came Matsya Union (1948) consisting of a fraction of states. Slowly and gradually other states merged with this Union. By 1949, major states like Bikaner, Jaipur, Jodhpur and Jaisalmer joined this Union making it United State of Greater Rajasthan. Ultimately in 1958, the present State of Rajasthan formally came into being, with Ajmer state, the Abu Road Taluka and Sunel Tappa joining it.

The entire western flank of the state borders with Pakistan, while Punjab, Haryana, Uttar Pradesh and Madhya Pradesh bind Rajasthan in north, north-east and south-east and Gujarat in south-west.

AGRICULTURE

Total cultivable area in the State is 257 lakh hectares (1998-99). The estimated foodgrain production is 129.24 lakh tonnes. Principal crops cultivated in the State are rice, barley, jowar, millet, maize, gram, wheat, oilseeds, pulses, cotton and tobacco. Cultivation of vegetable and citrus fruits such as orange and malta has also picked up over the last few years. Other crops are red chillies, mustard, cuminseeds, *methi* and *hing*.

INDUSTRY AND MINERALS

Endowed with a rich culture, Rajasthan is also rich in minerals and is fast emerging on the industrial scenario of the country. Some of the important Central undertakings are Zinc Smelter Plant at Devari (Udaipur), Copper Plant at Khetri Nagar (Jhunjhunu) and Precision Instrument Factory at Kota. Small-scale industrial units numbering 2.03 lakh with a capital investment of Rs 26.73 crore provided employment potential to about 7.89 lakh persons in the State in 1999-2000. Major industries are textiles and woollens, sugar, cement, glass, sodium plants, oxygen, vegetable dyes, pesticides, zinc, fertilizers, railway wagons, ball bearings, water and electricity metres, sulphuric acid, television sets, synthetic yarn and insulating bricks. Besides, precious and semi-precious stones, caustic soda, calcium carbide, nylon and tyres, etc., are other important industrial units.

Rajasthan has rich deposits of zinc concentrates, emerald, garnet, gypsum, silver ore, asbestos, felspar and mica. The State also abounds in salt,

rock phosphate, marble and red stone deposits. The first Export Promotion Industrial Park of the country has been established and made operational at Sitapura (Jaipur).

IRRIGATION AND POWER

Irrigation potential has been raised by 28,700 hectares during 1999-2000 and the total irrigation potential of the State is 47.20 lakh hectares. The State purchased 12,136.87 million units of power in addition to its own generation of 11,086.93 million units of power during 1999-2000.

TRANSPORT

Roads

The total length of roads was 85,008 km as on March 2000.

Railways

Jodhpur, Jaipur, Bikaner, Kota, Sawai Madhopur and Bharatpur are main rail junctions of the State.

Aviation

Regular air services connect Jaipur, Jodhpur and Udaipur with Delhi and Mumbai.

FESTIVAL

Rajasthan is a land of festivals and fairs. Besides the national festivals of *Holi*, *Deepawali*, *Vijayadashmi*, *Muharram*, Christmas, etc., birth anniversaries of gods and goddesses, saintly figures, folk heroes and heroines are celebrated. Important fairs are *Teej*, *Gangaur* (Jaipur), annual *Urs* of Ajmer Sherif and Galiakot, tribal *Kumbh* of Beneshwar (Dungarpur), Mahaveer fair at Shri Mahavirji in Sawai Madhopur, *Ramdeora* (Jaisalmer), *Janbheshwari Fair* (Mukam-Bikaner), *Kartik Poonima* and Cattle Fair (Pushkar-Ajmer) and *Shyamji Fair* (Sikar), etc.

TOURIST CENTRES

Jaipur, Jodhpur, Udaipur, Bikaner, Mount Abu, Sariska Tiger Sanctuary in Alwar, Keoladeo National Park at Bharatpur, Ajmer, Jaisalmer, Pali and Chittorgarh are important places of tourist interest in the State.

GOVERNMENT

Governor	: Justice Anshuman Singh	Chief Secretary	: Inder Jeet Khanna
Chief Minister	: Ashok Gehlot	Chief Justice	: Justice A.C. Lakshmanan
Speaker	: Paras Ram Madema	Jurisdiction of High Court	: Rajasthan

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Ajmer	8,481	17,29,207	Ajmer
2.	Alwar	8,380	22,96,580	Alwar
3.	Banswara	5,037	11,55,600	Banswara
4.	Barmer	28,387	14,35,222	Barmer
5.	Bharatpur	5,066	16,51,584	Bharatpur
6.	Bhilwara	10,455	15,93,128	Bhilwara
7.	Bikaner	27,244	12,11,140	Bikaner
8.	Bundi	5,550	7,70,248	Bundi
9.	Chittorgarh	10,856	14,84,190	Chittorgarh
10.	Churu	16,830	15,43,211	Churu
11.	Dholpur	3,034	7,49,479	Dholpur
12.	Dungarpur	3,770	8,74,549	Dungarpur
13.	Ganganagar	7,944	14,02,444	Ganganagar
14.	Jaipur	11,588	38,87,895	Jaipur
15.	Jaisalmer	38,401	3,44,517	Jaisalmer
16.	Jalore	10,640	11,42,563	Jalore
17.	Jhalawar	6,219	9,56,971	Jhalawar
18.	Jhunjhunu	5,928	15,82,421	Jhunjhunu
19.	Jodhpur	22,850	21,53,483	Jodhpur
20.	Kota	5,481	12,20,505	Kota
21.	Nagaur	17,718	21,44,810	Nagaur
22.	Pali	12,387	14,86,432	Pali
23.	Sawai Madhopur	5,043	8,75,752	Sawai Madhopur
24.	Sikar	7,732	18,42,914	Sikar
25.	Sirohi	5,136	6,54,029	Sirohi
26.	Tonk	7,194	9,75,006	Tonk
27.	Udaipur	12,511	20,66,580	Udaipur
28.	Dausa	2,950	9,94,431	Dausa
29.	Baran	6,955	8,10,326	Baran
30.	Rajsamand	4,768	8,22,721	Rajsamand
31.	Hanumangarh	12,690	12,20,333	Hanumangarh
32.	Karoli	5,014	9,27,719	Karoli

SIKKIM

Area : 7,096 sq km Population : 4,06,457

Capital : Gangtok Principal Languages : Lepcha, Bhutia, Nepali and Limbu

HISTORY AND GEOGRAPHY

The early history of Sikkim starts in the 13th century with the signing of a blood-brotherhood treaty between the Lepcha Chief Thekong Tek and Tibetan

prince Khye-Bumsa at Kabi Lungtsok in North Sikkim. This follows the historical visit of three revered saints to Yuksam in 1641 in west Sikkim where they met Phitsog Namgyal, a sixth generation descendant of Khye Bumsa, and formally consecrated him as the first Chogyal of Sikkim at Yuksam in 1642, thus heralding the beginning of the Namgyal dynasty in Sikkim. With the march of history, events in Sikkim saw the state pass democracy and become an integral part of the Indian Union in 1975.

Bounded by Bhutan in the east, Tibet in the north, Nepal in the west and the State of West Bengal in the south, Sikkim lies in the heart of the towering eastern Himalayas. Personally consecrated by Guru Padmasambhava during his sojourn to Tibet, Sikkim is a blessed land where people from all communities live in harmony. The world's third highest mountain, Khang-hen-dzo-nga, regarded as the guardian diety of Sikkim, dominates the tiny Himalayan State with its awe-inspiring beauty and majesty. Over 4,000 species of different plants and shrubs, around 700 species of rare orchids and rhododendrons and flowers of myriad hues and shapes have transformed Sikkim into a nature lover's paradise. Most of the 7,096 sq km of Sikkim consists of mountainous terrain, interspersed with ravines and green valleys. The two main rivers are Teesta and Rangit.

AGRICULTURE

The State's economy is basically agrarian. Maize, rice, wheat, potato, large cardamom, ginger and orange are the principal crops. Sikkim has the largest area and highest production of cardamom in India. Ginger, potato, orange and off-season vegetables are other cash crops. The area available for cultivation constitutes only 11 to 12 per cent of total land utilisation in the State, the scope of increasing production through area expansion is limited. The main thrust in agriculture development, therefore, has been to maximise productivity and net income per unit area. Emphasis is being laid on the development of commercial and horticulture crops and floriculture.

INDUSTRY

Sikkim has been declared industrially backward state. In order to plan strategy to develop industrial climate in the state, a new industrial policy has been formulated from 10 April 1996. The Department of Industries lays emphasis on the promotion and development of various small scale industries. The Directorate of Handloom and Handicrafts at Gangtok provides training to youth in traditional arts and crafts.

There are three public sector undertakings in Sikkim. Sikkim Time Corporation (SITCO) is owned by the State government. In collaboration with IIMT it assembles watches, manufactures digital watches and M.I.C. chips. Sikkim Jewels Limited is one of the sophisticated and precision oriented industries for the manufacture of jewel bearings for electric meters, water meters and other measuring instruments like watches and clocks. Ten ancillary units have been set up to manufacture 600 lakh watch jewels per annum.

Sikkim Industrial Corporation was established in March 1977 with twin functions of State Financial Corporation and Small Industries Development Corporation. It provides long-term loans for cottage, tiny, small and medium-scale industrial units, hotel, hospitals/nursing homes and taxi.

IRRIGATION AND POWER

During the Seventh Plan period (1985 to 1990) many new irrigation schemes for providing assured water both for *kharif* and *rabi* cropping were taken up and to avoid damages to open channels due to landslide, concrete hume pipes and IIDPE pipes in sinking areas, were used extensively within this period. An additional irrigation potential of 6,359 hectares was created and a corresponding 5,530 hectares of potential was utilised. The state has initiated steps to prepare a master plan for irrigation in the entire State in collaboration with the Agriculture Finance Corporation. A 200 KW micro hydel scheme at Lachung in North Sikkim has been commissioned. Two more similar schemes are to be taken up during the Eighth Plan period in a phased manner. The total power potential of the state is about 8,000 MW.

TRANSPORT

Roads

Gangtok is connected by road with Darjeeling, Kalimpong, Siliguri and also with all the district headquarters within Sikkim. Road length in the state is 2,383 km.

Railways

The two closest railway stations are Siliguri (114 km) and New Jalpaiguri (125 km) connecting Calcutta, Delhi, Guwahati, Lucknow and other important cities in India.

Aviation

There is no airport in Sikkim. Bagdogra airport in West Bengal which caters to the state is 124 km from Gangtok. Bagdogra has regular Indian Airlines and Jet Airways services from Calcutta and Delhi and also the North-East.

FESTIVALS

Sikkim's population comprises the three principal ethnic communities of the Bhutias, the Lepchas and the Nepalese. *Maghey Sankranti*, *Durga Puja*, *Laxmu Puja* and *Chaite Dasai* are the main festivals celebrated by the Nepali community. *Pang-Lhabsol*, *Losoong* and *Losar* are celebrated by the Bhutia community. *Namsoong* and *Tendong Hlo Rum Faat* is celebrated by the Lepcha community.

TOURIST CENTRES

Some important tourist centres are Gangtok, Bakhim, Yumthang, Dubdi, Dzongri, Varsey, Tashiding, Rumtek monastery, Pemayantse monastery, Tsomgo and Phodong monastery.

GOVERNMENT

<i>Governor</i>	: Chaudhury Randhur Singh	<i>Chief Secretary</i>	: W. Tenzing
<i>Chief Minister</i>	: Pawan Chamling	<i>Chief Justice</i>	: R.S. Dayal
<i>Speaker</i>	: C.B. Subba	<i>Jurisdiction of High Court</i>	: Sikkim

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	East	954	1,78,452	Gangtok
2.	North	4,226	31,240	Mangan
3.	South	750	98,604	Namchi
4.	West	1,166	98,161	Gyalshing

TAMIL NADU

<i>Area</i>	: 1,30,058 sq km	<i>Population</i>	: 5,78,68,155
<i>Capital</i>	: Chennai	<i>Principal Language</i>	: Tamil

HISTORY AND GEOGRAPHY

Tamil Nadu has a hoary antiquity. Though early *sangam* classics throw historical references, only from the Pallavas we pass to recorded history.

South India had remained under the hegemony of the Cholas, the Cheras and the Pandyas for centuries. The Pallavas held supremacy from about the second quarter of the fourth century AD. They were the originators of the famous Dravidian style of temple architecture. The last Pallava ruler was Aparajita in whose reign the later Cholas under Vijayalaya and Aditya asserted themselves by about the 10th century. At the end of the 11th century, Tamil Nadu was ruled by several dynasties like the Chalukyas, Cholas and Pandyas. In the two centuries that followed, the imperial Cholas gained paramountacy over South India.

Muslims gradually strengthened their position, which led to the establishment of the Bahamani Sultanate, by the middle of the 14th century. At the same time, the Vijayanagar kingdom quickly consolidated itself and extended its sway over the whole of South India and at the close of the century, Vijayanagar became the supreme power in South. However, it crumbled at the battle of Talikota in 1564 to the confederate forces of the Deccan Sultans.

Even during the period of the tumultuous confusion that followed the battle of Talikota, European commercial interest had appeared as rivals in

the area of South India. The Portuguese, the Dutch, the French and the English came in quick succession and established trading centres known as 'Factories'. East India Company which had established their factory at Masulipatnam, now in Andhra Pradesh, in 1611 gradually annexed territories by encouraging enmity among the native rulers. Tamil Nadu was one of the first of British settlements in India. The State is the successor to the old Madras Presidency which in 1901 covered the bulk of the southern peninsula. The composite Madras State was later reorganised and the present Tamil Nadu was formed.

Tamil Nadu is bounded on north by Andhra Pradesh and Karnataka on west by Kerala, on east by the Bay of Bengal and on south by the Indian Ocean.

AGRICULTURE

Agriculture is the major occupation in Tamil Nadu. Total cultivated area in the State is 6.56 million hectares. The principal food crops include paddy, millets, *jowar*, *bajra*, *ragi* and maize and pulses. Commercial crops include sugarcane, cotton, sunflower, coconut, cashew, chillies, gingelly and groundnut. Plantation crops are tea, coffee, cardamom and rubber. Major forest produces are timber, sandalwood, pulp wood and fuel wood. Tamil Nadu occupies a premier position in the production and extensive application of bio-fertilizers. Efforts are on to improve farming technologies so as to increase yields in the low rainfall areas of the State.

INDUSTRY AND MINERALS

Major industries in the State are cotton, heavy commercial vehicles, auto components, railway coaches, power pumps, leather tanning industries, cement, sugar, paper, automobiles and safety matches. Tamil Nadu has achieved the first rank in the country in respect of inflow of investment approved and under implementation (CMIE, April 1999). The important public sector undertakings in the State include Neyveli Lignite Corporation, Integral Coach Factory, High Pressure Boiling Plant, Hindustan Teleprinters, Hindustan Photo Films, Chennai Petroleum Corporation, Madras Fertilisers, Heavy Vehicles Factory, Salem Steel Plant and Pugalur Paper Factory.

Information Technology (IT) has become a thrust area in the industrial scene of Tamil Nadu. TIDEL, a software technology park has been established in Tharamani, Chennai. Also, TANITEC, an institute of excellence in IT education has been established in Chennai.

Global auto majors Hyundai Motors and Mitsubishi have commenced production in Chennai.

Major minerals of the state are lignite, limestone, magnesite, mica, quartz, salt, bauxite and gypsum. The state is an important exporter of tanned skin and leather goods, yarn, tea, coffee, spices, engineering goods, tobacco, handicrafts and black granite. Tamil Nadu accounts for 27.06 per cent of the

Indians industrial investments. Industrial development in Tamil Nadu has been raised to 15.02 per cent from 8.7 per cent.

IRRIGATION

Important irrigation schemes implemented are : The Lower Bhavani, the Amaravathi, the Vaigai, the Parambikulam-Aliyar, the Sathanur, the Kullambadi-Kattalai high level canal, the Gomukhi Nadhi, Chithar Pattinamkal. Water Resources Consolidation project is implemented to modernise large and medium irrigation schemes to enhance efficiency of irrigation by improving the canal system and for the early completion of nine incomplete irrigation projects.

POWER

The total installed capacity for electricity in the State is 7,203 MW. The gross generation of power is about 38,313 MU. The first private sector Power project with a capacity of 196 MW located at Basin Bridge near Chennai commenced commercial production from December 1998. The Tamil Nadu Electricity Board has identified 16 private promoters to establish a generating capacity of 10,900 MW in the next 10 years. The other major projects contemplated include a 1,000 MW South Madras Thermal Power Project at Cheyyur as a joint project with the National Thermal Power Corporation. The 2x1000 MW nuclear power project at Koodankulam is in the initial stage.

TRANSPORT

Roads

The length of roads network in Tamil Nadu is 1,50,095 km of which surfaced road is 60,212 km.

Railways

The total length of railways is 3,991 km with 626 railway stations, the main junctions being Chennai, Madurai, Tiruchirapalli and Coimbatore.

Aviation

Chennai being the international airport in the southern region, is the main centre of airline routes. Besides, there are airports at Tiruchirapalli, Madurai, Coimbatore and Salem.

Ports

Major ports in the State are Chennai and Tuticorin. There are seven other minor ports including Cuddalore and Nagapattinam.

FESTIVALS

Pongal: Pongal is the harvest festival celebrated by the farmers in January to worship the sun, the earth and the cattle as thanks giving for a bounteous harvest. Pongal festival is followed by the Jallikattu-Bull fight, Tamil Nadu style in some parts of southern Tamil Nadu. Alanganallur in Tamil Nadu is

internationally famous for Jallikattu-Bull fight. *Chithirai Festival* Madurai: Madurai brings a spectacular re-enactment of the marriage of the Pandiyan princess Meenakshi to Lord Sundareswarar. *Adipperukku*: *Adipperukku* is a festival celebrated on the 18th day of Tamil month, *Adi*, on the banks of rivers. It marks the commencement of new farming operations. *Dance Festivals - Mamallapuram*: Set before an open-air 'stage' created 13 centuries ago the incredible monolithic rock sculptures of the Pallavas, next to the sea in this ancient city of Mamallapuram, lovers of dance will be treated to a very unique and unforgettably aesthetic event *Bharatha Natyam*, *Kuchipudi*, *Kathakali* and *Odisi*, presented by the very best exponents of the art besides folk dances. *Natyanjali Dance Festival*: The temple city of Chidambaram pays special tribute to Lord Nataraja the 'Cosmic Dancer'. *Mahamagam Festival*: A holy festival that brings pilgrims to Kumbakonam once in 12 years - the temple city that gets its name from *Kumbha* - the divine pot. *Summer Festival*: The summer festival is held every year in the 'Queen of Hill Stations' the evergreen Ooty, the exquisite Kodaikkanal or the salubrious heights of Yercaud. *Kanthuri Festival*: A truly secular festival - where devotees flock to the shrine of saint Quadirwali. One of the descendants of the Saint is chosen as a *Peer* or spiritual leader and is honoured with offerings. On the tenth day of the festival, the Saint's tomb is annointed with sandalwood and later the holy sandal paste is distributed to everyone. *Velankanni Festival*: Wondrous legends surround the church, the most famous being that of the ship-wrecked Portuguese sailors, who in the 16th century, vowed to build a great shrine for the Virgin Mary, for saving their lives in a terrible storm. The *Velankanni* festival attracts thousands, clad in orange robes to the sacred spot where the ship landed. Equally famous are the Virgin Mary's miraculous healing powers - earning for the church the name "Lourdes of the East". *Navarathri Festival*: Literally, this means the festival of 'nine nights' taking unique and different forms in different states of India - all to propitiate the goddess *Sakthi*, for power, wealth and knowledge. *Karthigai Deepam*: Rows of glittering earthen lamps outside every home, and joyous burst of fire crackers mark Tamil Nadu's Festival of lights. *Music Festival*: In December, Chennai celebrates her priceless heritage of *carnatic* music and dance to present a galaxy of star artistes, old and new.

TOURIST CENTRES

Chennai, Mamallapuram, Poompuhar, Kancheepuram, Kumbakonam, Dharasuram, Chidambaram, Tiruvannamalai, Srirangam, Madurai, Rameswaram, Tirunelveli, Kanniyakumari, Thanjavur, Velankanni, Nagoor, Chithannavasal, Kazhugumalai (monumentcentres), Courtallam, Hogenakkal, Papanasam, Suruli (water-falls), Ooty (Udhagamandalam), Kodaikanal, Yercaud, Elagiri Kolli Hills (hill stations), Guindy (Chennai), Mudumalai, Anamalai, Mundanthurai, Kalakad (wildlife sanctuaries), Vedanthangal and Point Calimere (bird sanctuaries), Vandalur Zoological park near Chennai are some of the places of tourist interest.

GOVERNMENT

<i>Governor</i>	: Justice M. Fathima Beevi	<i>Chief Secretary</i>	: A.P. Muthuswami
<i>Chief Minister</i>	: M. Karunanidhi	<i>Chief Justice</i>	: N.K. Jain (acting)
<i>Speaker</i>	: P.T.R. Palanivel Rajan	<i>Jurisdiction of High Court</i>	: Tamil Nadu and Pondicherry

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	Chennai	174	38,41,396	Chennai
2.	Kancheepuram	4,433	24,42,179	Kancheepuram
3.	Thiruvallur	3,424	22,11,414	Thiruvallur
4.	Vellore	6,077	30,26,432	Vellore
5.	Tiruvannamalai	6,191	20,42,979	Tiruvannamalai
6.	Cuddalore	3,999	21,31,968	Cuddalore
7.	Villupuram	7,217	27,46,465	Villupuram
8.	Salem	5,220	26,62,164	Salem
9.	Namakkal	3,429	12,34,218	Namakkal
10.	Dharmapuri	9,622	24,28,596	Dharmapuri
11.	Pudukottai	4,651	13,27,148	Pudukottai
12.	Erode	8,209	23,20,263	Erode
13.	The Nilgiris	2,549	7,10,214	Uthagamandalam
14.	Coimbatore	7,469	35,08,374	Coimbatore
15.	Trichirappalli	5,114	21,96,473	Trichirappalli
16.	Karur	2,896	8,54,162	Karur
17.	Perambalur	3,691	10,87,413	Perambalur
18.	Thanjavur	3,397	20,53,760	Thanjavur
19.	Nagapattinam	2,716	13,77,601	Nagapattinam
20.	Thiruvavarur	2,161	11,00,096	Thiruvavarur
21.	Madurai	3,676	24,00,339	Madurai
22.	Theni	2,889	10,49,323	Theni
23.	Dindigul	6,058	17,60,601	Dindigul
24.	Ramanathapuram	4,232	11,44,040	Ramanathapuram
25.	Sivagangai	4,086	10,78,190	Sivagangai
26.	Virudhunagar	4,288	15,65,037	Virudhunagar
27.	Tirunelveli	6,810	25,01,832	Tirunelveli
28.	Toothukudi	4,621	14,55,920	Toothukudi
29.	Kanyakumari	1,685	16,00,349	Nagercoil

Area for S.No.15,16,17,21 and 22 are subject to finalisation

TRIPURA

Area	: 10,491.69 sq km	Population	: 27,57,205
Capital	: Agartala	Principal Languages	: Bengali and Kokborak

HISTORY AND GEOGRAPHY

Tripura has a long historic past, its unique tribal culture and a fascinating folk lore. The history of Tripura can be understood from "Rajmala" chronicles of king Tripura and writings of other Mohammedan historians. There are references of Tripura even in *Mahabharata* and *Puranas*. According to 'Rajmala', the rulers were known by the surname 'Fa' meaning 'father'. There is a reference to rulers of Bengal helping Tripura kings in the 14th century. Kings of Tripura had to face frequent Mughal invasions with varying successes. They defeated the Mohammedan Sultans of Bengal in several battles. Nineteenth century marked the beginning of the modern era in Tripura when king Maharaja Birchandra Kishore Manikya Bahadur modelled his administrative set-up on the British India pattern and brought in various reforms. His successors ruled over Tripura till 15 October 1949 when it merged with the Indian Union. Initially, a part 'C' state and with the re-organisation of states in 1956, it became a Centrally administered territory. In 1972, this territory attained the status of a full-fledged state.

Tripura is strategically situated between the river valleys of Myanmar and Bangladesh. Encircled almost on three sides by Bangladesh, it is linked with Assam and Mizoram in the north-east.

IRRIGATION AND POWER

Total irrigated area in the State is 64,665 hectares. It is estimated that about 1.17 lakh additional hectares of land will be brought under irrigation scheme of which 13,000 hectares will be covered by the medium irrigation schemes, 66,000 hectares by the minor irrigation schemes and 38,000 hectares utilising ground water potential. With a 500 MW thermal power project at Melaghar being taken up under the NEEPCO it is expected to become a power-surplus state. Against the demand of power consumption of 130 MW, currently 56 MW is being generated from its own power plants. Though the State Power Department has 1,89,695 consumers under its fold as on 31 March 2000, its village electrification programme has achieved a grand success. So far 815 villages out of 861 villages and 3,775 hamlets out of 4,727 hamlets have been electrified. Under the *Kutir Jyoti* programme the state provided power connections to 18,385 families under below poverty-line category during 1999-2000. The State has undertaken a new 21 MW power project proposed to be set up at Baramura.

TRANSPORT

Roads

Total length of road in Tripura is 12,547 km of which major district roads are 454 km and other district roads are 1,463 km.

Railways

Total length of railway lines within the State is 44 km. It has been extended up to Kumarghat in North Tripura district.

Aviation

The main airport Agartala is connected with Calcutta, Guwahati and Delhi. Airports at Kailashahar and Kamalpur are not functioning at present.

TOURIST CENTRES

Important tourist centres are : Ujjayanta Palace, Jagannath Temple, Laxmi Narayan Temple, Uma Maheswari Temple, Benuban Vihar, State Museum, Rabindra Kanan (all at Agartala); 14-Goddess temple at Old Agartala, Brahmakunda, Kamala Sagar, Sepahijala Wildlife Sanctuary, Neermahal at Melaghar, Trishna Wildlife Sanctuary, Pilak in Belonia, Debtamura, Tirthamukh, Mandirghat, Dumboor Lake, Coconut Island at Dumboor Lake, Tripura Sundari Temple, Bhuwaneshwari Temple, Badarmokam and Paratia Reserve Forest at Udaipur, Kumarghat, Unakoti in Kailashahar and Jampui Hills.

FESTIVALS

Makar Sankranti festival at Tirthamukh and Unakoti, Holi festival, Ashokashtami festival at Unakoti, Brahmakunda festival at Mohanpur, Rash festival, Bengali New Year's festival, Garia festival, Biju festival, Hozagiri festival. Boat Race and Mansa Mangal festival, Ker and Kharchi festival, Sarad festival, Diwali, Christmas at Jampui Hills, Buddha Purnima festival, etc., are celebrated.

GOVERNMENT

Governor	: Lt. Gen. K.M. Seth	Chief Secretary	: V. Thulasidas
Chief Minister	: Manik Sarkar	Jurisdiction of	: Falls under
Speaker	: Jitendra Sarkar	High Court	Guwahati High Court Agartala Bench

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1.	North Tripura	2,820.63	4,67,147	Kailashahar
2.	South Tripura	2,151.77	7,17,100	Udaipur
3.	West Tripura	2,996.82	12,93,861	Agartala
4.	Dhalai	2,522.47	2,79,097	Ambassa

UTTAR PRADESH

Area	: 2,94,411 sq km	Population	: 13,91,12,287
Capital	: Lucknow	Principal Languages	: Hindi and Urdu

HISTORY AND GEOGRAPHY

The history of Uttar Pradesh is very ancient and interesting. It is recognised

in the later Vedic Age as Brahmarshi Desha or Madhya Desha. Many great sages of the Vedic times like Bharadwaja, Gautam, Yagyavalkya, Vasishtha, Vishwamitra and Valmiki appear to have flourished in this state. Several sacred books of the Aryans were also composed here. Two great epics of India, *Ramayana* and *Mahabharata*, appear to have been inspired by Uttar Pradesh.

In the sixth century BC Uttar Pradesh was associated with two new religions - Jainism and Buddhism. It was at Sarnath that Buddha preached his first sermon and laid the foundations of his order and it was in Kushinagar in Uttar Pradesh that Buddha breathed his last. Several centres in Uttar Pradesh like Ayodhya, Prayag, Varanasi and Mathura became reputed centres of learning. Sri Sankaracharya, the great Hindu reformer, established one of his *ashrams* at Badrinath in the medieval period. Uttar Pradesh passed under Muslim rule and led the way to a new synthesis of Hindu and Islamic cultures. Ramananda and his Muslim disciple Kabir, Tulsidas, Soordas and many other intellectuals contributed to the growth of Hindi and other languages.

Uttar Pradesh preserved its intellectual leadership even under the British administration. The British combined Agra and Oudh into one province and called it United Provinces of Agra and Oudh. The name was shortened to the United Provinces in 1935. In January 1950 the United Provinces was renamed as Uttar Pradesh.

The state is bound by Tibet and Nepal in north, Himachal Pradesh in north-west, Haryana in west, Madhya Pradesh in south and Bihar in east. Uttar Pradesh can be divided into three distinct regions: (i) Northern mountains, (ii) Southern hills plateau and (iii) Gangetic Plain.

AGRICULTURE

Agriculture is the main occupation of 78 per cent of the population of the state. The net cultivated area in the state is 167.32 lakh hectares. Total foodgrains production during 1997-98 was 401.55 lakh metric tonnes.

INDUSTRY AND MINERALS

By the end of March 1998, there were 2,616 medium and large industrial undertakings with an investment of Rs 41,266.20 crore and employment opportunities for 7,38,582 persons. Besides, there were 4,04,617 small-scale industrial units involving a total investment of Rs 3,991.22 crore and employment opportunities for 15,69,892 persons. About 37.27 lakh tonnes of sugar was produced in the state. There were 68 textiles units.

It is planned to develop 102 sectors of New Okhla Industrial Development Authority (NOIDA) by the year 2011. The authority includes industrial sectors, housing sectors, group housing sectors, residential buildings, commercial assets and institutional sectors. Step has been taken to develop other industrial areas in the State on the pattern of Noida and Greater Noida. A Software Technology Parley has been set up in Kanpur for promotion of software export.

Under the public sector, the mining of limestone, magnesite, coal, rock-phosphate, dolomite and silica-sand is carried out. The bulk production of minor minerals and some of the major minerals like limestone, silica-sand, magnesite, pyrophyllite and diaspore is mostly with the private sector.

IRRIGATION AND POWER

During 1999-2000, an expenditure of Rs 2,094.5256 crore was made to raise the irrigation potential to a level of 267.99 lakh hectares. The UP State Electricity Board (UPSEB) since its inception on 1 April 1959 has been carrying out the work of generation, transmission and distribution of electricity throughout the State. At the time of its inception the total installed capacity, including thermal and hydro, was 2635 MW which has been raised to 5414 MW (derated 5,885.75 MW). As on 31 March 2000, 89,117 villages were electrified and 65,027 villages were electrified through LT Mains. Besides, 63,282 scheduled caste *bastis* were also electrified.

TRANSPORT

Roads

By the end of 1998-99, total road length in the State was 1,21,761 km. This include 4,036 km of national highways, 9,637 km of state highways, 9,911 km of important district roads, 25,246 km of other district roads and 72,931 km of rural roads.

Railways

Lucknow is the main junction of the northern network. Other important railway junctions are Agra, Kanpur, Allahabad, Mughalsarai, Jhansi, Moradabad, Varanasi, Tundla, Gorakhpur, Gonda, Faizabad, Bareilly and Sitapur.

Aviation

There are airports at Lucknow, Kanpur, Varanasi, Allahabad, Agra, Jhansi, Bareilly. Hindon (Ghaziabad), Gorakhpur, Sarsawa (Saharanpur), Pantnagar (Nainital), Jolly Grant (Dehradun) and Fursatganj (Rae-Bareli).

FESTIVALS

The biggest congregation, perhaps of the world, *Kumba Mela* is held at Allahabad and Hardwar every twelfth year. *Ardh Kumbh Mela* is also held at these places every sixth year. In Allahabad, there is a *Magh Mela* every winter in January when people come and settle there for a month to have a dip in the holy *Sangam* every morning. Among other fairs is the fortnight long *jhoola* fair of Mathura, Vrindavan and Ayodhya, when *dols* are placed in gold and silver *jhoolas* or cradles. A dip in the Ganga on *Kartik poornamasi* is supposed to be the holiest and there are big congregations at Garhmukteswar, Soran Rajghat, Kakora, Bithur, Kanpur, Allahabad, Varanasi, Ayodhya and Hardwar. A famous cattle fair is held at Bateswar in Agra district. Dewa in Bara Banki district has become famous because of the muslim saint Waris Ali Shah. Besides, important festivals of the Hindus, Muslims, etc., are widely celebrated in the state.

TOURIST CENTRES

Uttar Pradesh has varied attractions for all kinds of tourists. Besides ancient places of pilgrimage like Varanasi, Vindhyachal, Ayodhya, Chitrakoot, Prayag, Bageshwar, Jageshwar, Pauri, Nainisharanya, Mathura, Vrindavan, Hardwar, Rishikesh, Badrinath, Kedarnath, Gangotri, Yamunotri, Nanak Matta, Hemkund-Sahib, Dewa Sharief Peerane-Kaliyar, Dargah of Sheikh Saleem Chishti in Fatehpur, Sarnath, Shravasti, Kushinagar, Sankisa, Kampil, Piprahwa and Kaushambi, places like Agra, Ayodhya, Sarnath, Varanasi, Lucknow, Mathura, Prayag, Jhansi, Gorakhpur, Jaunpur, Kannauj, Mahoba, Devgarh, Bithur, and Vindhyachal have rich treasures of Hindu and Islamic architecture and culture.

Uttar Pradesh has a treasure of magnificent scenic spots like Sangam in Allahabad, Hindon (Ghaziabad) and Tanda waterfall in Mirzapur. The hills of Kumaon are a feast to the eyes. The scenic beauty of the Himalayan valleys is enthralling.

GOVERNMENT

<i>Governor</i>	: Vishnu Kant Shastri	<i>Chief Secretary</i>	: Bhola Nath Tiwari
<i>Chief Minister</i>	: Rajnath Singh	<i>Chief Justice</i>	: Shyamal Kant Sen
<i>Speaker</i>	: Kesari Nath Tripathi	<i>Jurisdiction of High Court</i>	: Uttar Pradesh

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S. No.	District	Area (sq km)	Population	Headquarters
1	2	3	4	5
1.	Agra	4,027	27,51,021	Agra
2.	Aligarh	5,019	32,95,982	Aligarh
3.	Etah	4,446	22,44,998	Etah
4.	Firozabad	2,361	15,33,054	Firozabad
5.	Mainpuri	2,760	13,16,746	Mainpuri
6.	Mathura	3,811	19,31,186	Mathura
7.	Mahamaya Nagar	-	1,13,285	Hathras
8.	Azamgarh	4,234	31,53,885	Azamgarh
9.	Ballia	2,981	22,62,273	Ballia
10.	Mau	1,713	14,45,782	Mau
11.	Kaushambi	2,015	11,57,402	Kaushambi
12.	Fatehpur	4,152	18,99,241	Fatehpur
13.	Pratapgarh	3,717	22,10,700	Pratapgarh
14.	Allahabad	2,261	49,21,313	Allahabad
15.	Chitrakoot	3,513	5,95,996	Chitrakootdham

7.	Mahamaya Nagar	-	1,13,285	Hathras
8.	Azamgarh	4,234	31,53,885	Azamgarh
9.	Ballia	2,981	22,62,273	Ballia
10.	Mau	1,713	14,45,782	Mau
11.	Kaushambi	2,015	- 11,57,402	Kaushambi
12.	Fatehpur	4,152	18,99,241	Fatehpur
13.	Pratapgarh	3,717	22,10,700	Pratapgarh
14.	Allahabad	2,261	49,21,313	Allahabad
15.	Chitrakoot	3,513	5,95,996	Chitrakootdham
16.	Budaun	5,168	24,48,338	Budaun
17.	Bareilly	4,120	28,34,616	Bareilly
18.	Pilibhit	3,499	12,83,103	Pilibhit
19.	Shahjahanpur	4,575	19,87,395	Shahjahanpur
20.	Faizabad	4,511	29,78,484	Faizabad
21.	Ambedkarnagar	-	-	Akbarpur
22.	Bahraich	6,877	27,63,750	Bahraich
23.	Barabanki	4,402	24,23,136	Barabanki
24.	Gonda	7,352	35,73,075	Gonda
25.	Sultanpur	4,436	25,58,970	Sultanpur
26.	Pauri Garhwal	5,438	6,82,535	Pauri
27.	Chamoli	9,126	4,54,871	Gopeshwar
28.	Dehradun	3,088	10,25,679	Dehradun
29.	Tehri Garhwal	4,421	5,80,153	New Tehri
30.	Uttarkashi	8,016	2,39,709	Uttarkashi
31.	Gorakhpur	3,325	30,66,002	Gorakhpur
32.	Deoria	2,613	21,43,745	Deoria
33.	Kushinagar	2,832	22,96,279	Padarauna
34.	Maharajganj	2,948	16,76,378	Maharajganj
35.	Banda	7,624	18,62,139	Banda
36.	Hamirpur	4,098	8,98,326	Hamirpur
37.	Jalaun	4,565	12,19,377	Orai
38.	Lalitpur	5,039	7,52,043	Lalitpur
39.	Mahoba	3,068	5,68,165	Mahoba
40.	Jhansi	5,024	14,29,698	Jhansi
41.	Kanpur (Nagar)	1,065	24,18,487	Kanpur
42.	Kanpur (Dehat)	5,111	21,38,317	Akbarpur
43.	Farrukhabad	4,274	24,40,266	Fatehgarh
44.	Etawah	4,326	21,24,655	Etawah
45.	Lucknow	2,528	27,62,801	Lucknow
46.	Hardoi	5,986	27,47,082	Hardoi
47.	Lakhimpur Kheri	7,680	24,19,234	Kheri
48.	Rai Bareilly	4,609	23,22,810	Rai Bareilly
49.	Sitapur	5,743	28,57,009	Sitapur
50.	Unnao	4,558	22,00,397	Unnao

51.	Nainital	6,794	15,40,174	Nainital
52.	Udhamsingh Nagar	3,358	9,14,861	Rudrapur
53.	Almora	5,385	8,36,617	Almora
54.	Pithoragarh	8,856	5,66,408	Pithoragarh
55.	Bulandshahar	4,352	28,49,859	Bulandshahar
56.	Meerut	3,911	34,47,912	Meerut
57.	Ghaziabad	2,590	27,03,933	Ghaziabad
58.	Gautam Buddha Nagar	1,501	1,46,514	Noida
59.	Moradabad	5,967	41,21,035	Moradabad
60.	Bijnor	4,561	24,54,521	Bijnor
61.	Rampur	2,367	15,02,141	Rampur
62.	Jyotiba Phule Nagar	2,470	13,29,554	Amroha
63.	Saharanpur	3,689	23,09,029	Saharanpur
64.	Hardwar	2,360	11,24,488	Hardwar
65.	Muzaffarnagar	4,008	28,42,543	Muzaffarnagar
66.	Varanasi	4,036	37,82,949	Varanasi
67.	Jaunpur	4,038	32,14,636	Jaunpur
68.	Chandauli	2,485	12,74,839	Chandauli
69.	Ghazipur	3,377	24,16,617	Ghazipur
70.	St. Ravi Das Nagar	1,056	10,77,633	Bhadohi
71.	Mirzapur	4,522	16,57,139	Mirzapur
72.	Sonbhadra	6,788	10,75,041	Robertsganj
73.	Basti	3,733	27,38,522	Basti
74.	Balrampur	3,457	13,68,630	Balrampur
75.	Shravasti	2,186	9,23,377	Shravasti
76.	Siddharth Nagar	3,495	17,07,685	Navgarh
77.	Champawat	1,712	1,93,337	Champawat
78.	Bageshwar	1,626	2,24,172	Bageshwar
79.	Rudra Prayag	2,439	2,00,451	Rudra Prayag
80.	Baghpat	1,345	10,30,399	Baghpat
81.	Kannauj	2,058	11,55,847	Kannauj
82.	Orraiya	2,054	10,00,035	Orraiya
83.	Sant Kabir Nagar	-	9,73,385	Khalilabad

A separate State of Uttaranchal comprising the following districts of Uttar Pradesh came into existence in November 2000: Pauri Garhwal, Chamoli, Dehradun, Tehri, Uttarkashi, Rudra Prayag, Nainital, Almora, Pithoragarh, Bageshwar, Champawat, Udham Singh Nagar and Hardwar.

WEST BENGAL

Area	: 88,752 sq km	Population	: 6,79,82,732
Capital	: Calcutta	Principal Language	: Bengali

HISTORY AND GEOGRAPHY

Bengal finds a coveted place even in pro-historic times. At the time of Alexander's invasion a powerful kingdom called Gangaridai ruled over Bengal. Ascendancy of the Guptas and the Mauryas had somewhat little effect on Bengal. Later Sasanka became King of Bengal and is said to have played an important role in north-eastern India in the early half of the seventh century. He was succeeded by Gopala, who founded the Pala dynasty which ruled for centuries and had created a huge empire. The Palas were followed by the Sena dynasty which was ended by Muslim rulers from Delhi. Bengal was ruled by various Muslim rulers and governors till the Mughal period in sixteenth century.

After the Mughals, history of modern Bengal begins with the advent of European and English trading companies. Battle of Plassey in 1757 changed the course of history when the English first gained a strong foothold in Bengal and India. In 1905 it was partitioned to achieve some political returns but people's growing movement under the auspices of Congress led to the reunion in 1911. This triggered off hectic movement for freedom which culminated with Independence in 1947, and partition.

After 1947, the merger of native settlement began which ended with its final reorganisation in 1956 (as per Recommendations of the States Reorganisation Act, 1956) when some Bengali speaking areas of a neighbouring state were transferred to West Bengal.

The land frontiers of the State touch Bangladesh in the east and is separated from Nepal in the west Bhutan lies in the north-east, while Sikkim is on the north. On the west and south are the states of Bihar and Orissa, respectively, Bay of Bengal washing its southern frontiers.

AGRICULTURE

Agriculture plays a pivotal role in the State's income and nearly three out of four persons in the State are directly or indirectly involved in agriculture. The total food production in the State in 1998-99 was 14,367.5 thousand tonnes. The rice production in 1998-99 was 13,316.4 thousand tonnes. West Bengal was the largest producer of rice among the states of India. The production of wheat and pulses in 1998-99 was 778.1 thousand tonnes and 126.5 thousand tonnes respectively. The production of jute was 7,373.6 thousand bales in 1998-99. The production of oilseeds during 1998-99 was 382.3 thousand tonnes and of potato 6,689.6 thousand tonnell.

INDUSTRY

West Bengal is one of the major industrial states in the country with 11,416 registered working factories in 1998. In 1999 (up to 25 November 1999) the State Government received industrial investment proposals for 183 projects involving a total investment of Rs 2,273.16 crore and 37 projects with investment of Rs 888.21 crore were implemented. Apart from Rs 5,200 crore

Haldia Petrochemicals Projects, other projects under implementation include Rs 1,600 crore project to manufacture PTA of Mitsubishi Chemical Corporation, the 450 crore export oriented bottle grade PET Resin project of South Asian Petrochem Limited at Haldia, Rs 300 crore cold rolling mill Bhusan Industries at Rishra, Rs 140 crore rayon project of Indian Rayons at Hooghly. Rs 1,600 crore Calcutta Mega City Programme is being implemented for which the Central Government has released Rs 109 crore and the State Government has provided Rs 210 crore so far.

West Bengal Industrial Development Corporation (WBIDC) has so far developed 12 growth centres covering an area of 2,000 acres of land. In these centres 1,160 acres of land has been distributed to 216 industrial units. Three Mega Growth Centres, one each in Jalpaiguri, Malda and Birbhum districts will be set up by WBIDC. The number of industrial units registered during 1998-99 stood at 13,156.

POWER AND IRRIGATION

Power in West Bengal is currently generated by the West Bengal Power Development Corporation Limited, West Bengal State Electricity Board, Calcutta Electric Supply Corporation and Durgapur Project Limited. Total generation of power in the State was 15,469 MU in 1998-99. The total number of *moujas* electrified during 1999-2000 (up to November 1999) is 29,534 and the total number of pump sets energized is 1,08,049. Under the *Kutirjyoti* and *Lokdeep* schemes as much as 1,18,051 households were electrified up to November 1999.

During 1998-99, total irrigation potential created in the State was 71.70 lakh hectares. All the 88 minor irrigation schemes completed under North Bengal Tarai Development Project have been handed over to the beneficiaries. Each year about eight to ten thousand hectares of additional minor irrigation potential is created. Currently work on three major irrigation projects Kangsabati Reservoir Project, Damodar Valley Project and Teesta Barrage Project is going on and the first two projects are expected to be completed by the end of the Ninth Plan. A cumulative irrigation potential of 93,610 hectares has been created through the Teesta Barrage Project by the end of 1998-99.

TRANSPORT

Roads

The length of roads as on 31 March 1997 was 76,040 km including 1,651 km national highways. The length of roads under state highways is 3,418 km, under PWD 12,288 km and that of the district roads is 31,064 km respectively.

Railways

The total length of railway route in the state was 3,802.82 km in 1998-99. Howrah, Asansol, Sealdah, Bandel, Bardhaman, Kharagpur and New Jalpaiguri are the main junctions.

Ports

Calcutta is the most important port followed by Haldia.

Aviation

International airport Dum Dum is located near Calcutta. Other airfields in the State are Balurghat, Coochbehar, Malda, Bagdogra, Panagarh, Behala, Barrackpore and Kalaikunda.

FESTIVALS

Durga Puja is the most important festival along with *Kali puja* or *Diwali* besides *Vasant Panchami*, *Lakshmi Puja*, *Holi*, *Sivaratri*, *Janmashthami*, *Id-ul-Fitr*, etc.

TOURIST CENTRES

Important tourist centres are, among others Calcutta, Digha (Midnapore), Bakkhali Sea Resort, Sagar Island and Sundarbans (South 24-Parganas), Bandel, Tarakeswar, Kamarpukur (Hooghly) and Gadiara (Howrah), Shantiniketan and Bakreshwar (Birbhum), Durgapur (Burdwan), Mukutmanipur and Vishnupur (Bankura), Ayodhya Hills (Purulia), Murshidabad, Gour and Pandua (Malda), Darjeeling, Mirik, Kalimpong, Sandakfu and Falut and Kurseong (Darjeeling), Jaldapara and Dooars (Jalpaiguri).

GOVERNMENT

Governor	: Viren J. Shah	Chief Justice	: Ashok Mathur
Chief Minister	: Buddhadev Bhattacharya	Chief Secretary	: Manish Gupta
Speaker	: Hasim Abdul Halim	Jurisdiction of High Court	: West Bengal and Andaman and Nicobar Islands

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Bankura	6,882	28,05,065	Bankura
2.	Bardhaman	7,024	60,50,605	Bardhaman
3.	Birbhum	4,545	25,55,664	Sun
4.	Calcutta ¹	18,733	43,99,819	Calcutta
5.	Darjeeling	3,149	12,99,919	Darjeeling
6.	Howrah	1,467	37,29,644	Howrah
7.	Hooghly	1,467	43,55,230	Chinsurah
8.	Jalpaiguri	3,149	28,00,543	Jalpaiguri
9.	Coochbehar	6,227	21,71,145	Coochbehar
10.	Malda	3,387	26,37,032	English Bazar
11.	Medinipur	3,733	83,31,912	Medinipur
12.	Murshudabad	14,081	47,40,149	Berhampore
13.	Nadia	5,324	38,52,097	Krishnagar
		3,927		

14.	North 24 Parganas ²	14,052	72,81,881	Alipore
15.	South 24 Parganas	-	57,15,030	Barasat
16.	Purulia	6,259	22,24,577	Purulia
17.	Uttar Dinajpur	3,180	19,26,729	Raigunj
18.	Dakshin Dinajpur	2,183	12,00,924	Balurghat

¹ Includes three municipalities (Garden Reach with 12.05 sq km, suburban with 30.38 sq km and Jadavpur with 40 sq km)

² Shows combined area

ANDAMAN AND NICOBAR ISLANDS

Area	: 8,249 sq km	Population	: 2,80,661
Capital	: Port Blair	Principal Languages	: Hindi, Nicobarese, Bengali, Malayalam, Tamil, Telugu

HISTORY AND GEOGRAPHY

The Andaman and Nicobar Islands, an Union Territory, are situated between 6° and 14° North Latitude and 92° and 94° East Longitude. The group of 572 islands/islets lies in the Bay of Bengals, 193 km from Cape Negaris in Burma (Myanmar), 1,255 km from Calcutta and 1,190 km from Chennai. Two principal groups of islets are Ritchie's Archipelago and Labyrinth Islands. The Nicobar Islands are situated to the south of Andamans, 121 km from Little Andaman island. There are 36 inhabited islands, including 24 in the Andaman district and 12 in the Nicobar district.

The original inhabitants of the islands lived in the forests on hunting and fishing. There are four Negrito tribes, viz., the Great Andamanese, Onge Jarawa and Sentinalese in the Andaman group of islands and two Mongoloid tribes, viz., Nicobarese and Shompens in the Nicobar group of islands. Jarawa and Sentinalese are still hostile. Among these, the Jarawas have just now started occasionally coming out of their natural habitat. The Sentinalese are still keeping a separate entity and have not yet learnt the concept of covering their bodies.

The modern history of the Andaman and Nicobar Islands begins with the establishment of a settlement by East India Company in 1789. However, in 1796 this settlement was abandoned. Following the first war of Indian Independence in 1857, the British India Government founded the penal settlement in these islands in 1858, primarily known as Kalapani, for the deportation of mutineers, political prisoners and dreaded criminals from the mainland India which continued till the second World War. During the Second World War, the Japanese forces occupied the Andaman and Nicobar Islands in 1942. Further following the surrender of the Japanese forces in the Second World War, the British India Government reoccupied these in 1945 and continued their administration of these islands till the Independence of the country in 1947.

AGRICULTURE

A total of 49,539 hectares of land is used for agriculture purposes. Paddy the main food crop, is mostly cultivated in Andaman group of islands, whereas coconut and arecanut are the main cash crops of Nicobar group of islands. Field crops, namely, pulses, oilseeds and vegetables are grown, followed by paddy during Rabi season. Different kinds of fruits such as mango, sapota orange, banana, papaya, pineapple and root crops are grown on hilly land owned by farmers. Spices, viz., pepper, clove, nutmeg, and cinnamon are grown under multi-tier cropping system. Rubber, red oil, palm and cashew are grown on a limited scale in these islands.

FORESTS

Forests cover 7,171 sq km of the total area of the islands. All types of forests are found in the islands, such as giant evergreen, hill-top evergreen, moist, deciduous, littoral, mangrove and swamp forest. A large variety of timber is found in the Andaman group of islands. The most valuable timbers are padauk and gurjan. These species are not found in Nicobar. At present there is 7,613 sq km of land under forest cover in Andaman and Nicobar islands.

INDUSTRY

There are 1,316 registered small scale, village and handicrafts units. Two units are export oriented in the line of fish processing activity. Apart from this, there are shell and wooden handicrafts units catering to tourists within the islands and also exporting to other countries. Besides four medium sized industrial units are functioning. Recently promoted SSI units are engaged in the production of polythene bags, PVC conduit pipes and fittings, paints and varnishes, fibre glass and mini flour mills, soft drinks and beverages, steel furniture, barrels, aluminium doors and windows, etc. Small scale and handicraft units are also engaged in shell crafts, bakery products, rice milling, furniture making, oil seeds crushing, etc. The Andaman and Nicobar Integrated Development Corporation established in 1988, has expanded its wings in the field of civil supplies, tourism, fisheries, industries and industrial financing and functions as authorised agents for Jet Airways.

TRANSPORT

The islands are accessible both by air and sea. Alliance Air is operating five flights a week between Calcutta and Port Blair and four flights a week between Chennai and Visakhapatnam. The Directorate of Shipping Services maintain regular inter-island, fore-shore and harbour ferry services to cater to the need of inter-island commuters.

The state transport services extended its service to 11 major islands of this Union Territory right from Diglipur in the north to Campbell Bay in the south. Andaman Trunk Road service was introduced to connect the capital with Rangat, Mayabunder and Diglipur with trans-shipment service by providing three ferry boats, covering a distance of 272 km.

TOURISM

The Emerald isles, Andaman and Nicobar Islands are the place of historical importance and paradise for eco-friendly tourists. Covered with dense forest and endless variety of exotic flora and fauna, these islands have lovely beaches and charming under-water corals and marine life. Important tourist centres are: Places connected with freedom struggle like Viper island, Ros island and the Cellular Jail, National Memorial, Anthropological Museum, Marine Museum, Water Sports Complex, Gandhi Park, Mahatma Gandhi Marine National Park; Islands like Havelock, Neil, Jolly, Buoy, Cinque, Red Skin, Middle and North Andamans; Beaches like Corbyn's Cove, Radha Nagar, Cut Bert Bay, Karmatang (both Turtle nesting areas), Sita Nagar, etc. Best tourist season is during October to May.

GOVERNMENT

Lt. Governor : Ishwari Prasad Gupta

Chief Secretary : Anil Baijal

Jurisdiction of High Court : Falls under the jurisdiction of Calcutta High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Andaman	6,408	2,41,453	Port Blair
2.	Nicobar	1,841	39,208	Car Nicobar

CHANDIGARH

Area : 114 sq km

Population : 8.76 lakh

Capital : Chandigarh

Languages : Hindi, Punjabi, English

HISTORY AND GEOGRAPHY

Chandigarh nestles in a picturesque setting in the foothills of Shivalik hills and enjoys the popular epithet the City Beautiful. Representative of modern architecture and town planning, the city is a creation of the French architect, Le Corbusier. Chandigarh and the area surrounding it were constituted as a Union Territory on 1 November 1966. It serves as the joint capital of both Punjab and Haryana states. It is bounded on north and west by Punjab and on the east and south by Haryana.

AGRICULTURE

Cultivable land is 1,650 hectares in the Union Territory of Chandigarh and irrigated area about 1,580 hectares. Wheat, maize, vegetables and fodder are the major crops.

INDUSTRY

There are 15 large and medium and about 3,018 small scale industrial units offering employment to about 28,500 persons. Goods to the tune of Rs 60 crore are exported annually. The neighbouring states have developed industrial estates right next to the city. As a result industries have been set up on a large scale in Parwanoo, Baddi, Derabassi, Mohali and Panchkula. The Union Territory has the distinction of having the highest per capita income in the country today. The administration recently has revised its policy regarding provision of power to the industrial units. Additional power load is being provided liberally to the industrial units. The Single Window Committee has cleared 600 cases for the grant of extension and also fresh power connections. Under the Prime Minister's *Rozgar Yojana* 64 beneficiaries were sanctioned loans during 1999-2000 and a target of 100 cases has been earmarked for 2000-2001.

POWER

Chandigarh gets power from neighbouring states and Central generation projects to meet its power requirement. It has 3.5 per cent share of total power generation of Bhakra complex. Further the firm allocation is 80 mw, out of thermal, nuclear and gas based Central generation projects. The shortfall is being met through ad hoc allocation from BBMB besides Central projects. All the villages around the city stand electrified and have been extended the facility of public lighting.

TRANSPORT

The length of national highways is 15.275 km. Chandigarh is well connected by rail, road and air.

TOURIST CENTRES

Important tourist centres are Rock Garden, Zakir Rose Garden, Fragrance Garden, Shanti Kunj, Sukhna Lake, Museum and Art Gallery, City Museum, Children Art Gallery, Terraced Garden, National Gallery of Portraits, Bougainvilla Garden, Punjab University Campus, International Dolls Museum, City Centre, Topiary Park, Log Hut (Khuda Alisher) and Leisure Valley.

GOVERNMENT

<i>Administrator</i>	: Lt. Gen. (Retd) J.F.R. Jacob
<i>Jurisdiction of</i>	: Falls under jurisdiction of
<i>High Court</i>	Punjab and Haryana High Court

DADRA AND NAGAR HAVELI

<i>Area</i>	: 491 sq km	<i>Population</i>	: 1,38,477
<i>Capital</i>	: Silvassa	<i>Principal Languages</i>	: Gujarati, Hindi

HISTORY AND GEOGRAPHY

After prolonged skirmishes between the Portuguese and Marathas, on 17 December 1779, the Maratha Government assigned the aggregated revenue of Rs 12,000 in a few villages of this territory to the Portuguese as compensation to ensure their friendship. The Portuguese ruled this territory until its liberation on 2 August 1954. Subsequently the administration was carried on for some time by an administrator. The territory was merged with the Indian Union on 11 August 1961 as a Union Territory. Since liberation of the territory from Portuguese rule a *Varishtha Panchayat* was working as an advisory body of the administration, which was, however, dissolved in August 1989 and Pradesh Council for Dadra and Nagar Haveli was announced. Subsequently Dadra and Nagar Haveli District Panchayat and 11 Village Panchayats were constituted as per Constitutional amendments at all India level.

The Union Territory is surrounded by Gujarat and Maharashtra. It consists of two pockets, namely, Dadra and Nagar Haveli. There are 72 villages of which one village Kothar is almost uninhabited and has been submerged and four others are partly submerged due to construction of Damanganga Irrigation Project which is a joint venture of Union Territory of Dadra and Nagar Haveli, Daman and Diu and Gujarat State. The nearest railway station Vapi is 18 km from Silvassa.

AGRICULTURE

Dadra and Nagar Haveli, a predominantly rural area having about 79 per cent population of tribals has about 23,775 hectares under cultivation. Major crop is paddy (*Kharif*) while Nagli and other hill-millets are crops of the area. Among fruits mango, chiku and bananas are produced. Forests cover 40 per cent of the total geographical area. The tribal population that leans heavily on forests have been given exclusive rights for collection of minor forest produce free of cost.

INDUSTRY

Prior to 1965-66 a few traditional craftsmen used to make pots, leather items viz., *chappals*, shoes, and items of bamboo. Industrial development started on a low-key during 1967-68 with the establishment of an industrial estate under the cooperative sector by *Dan Udyog Sahakari Sangh Limited*. Thereafter, three government industrial estates have been developed at Silvassa, Masat and Khadoli. By March 2000 there were 988 cottage, village and small-scale industries and 312 medium-scale industries in textiles, engineering, plastics, electronics, chemicals, pharmaceuticals, etc., employing 27,733 persons and producing goods worth over Rs 2,000 crore.

IRRIGATION AND POWER

Prior to liberation of the territory, there was no irrigation facility. Later on adequate steps were taken and 91 lift irrigation schemes were completed at

various places in the territory. A multiple irrigation project Damanganga is also in its final stages. Power is purchased from Gujarat State Electricity Board and the entire territory is electrified.

TRANSPORT

The Union territory does not have its own road transport system. It avails of Gujarat and Maharashtra states transport system. Total road length is about 533.94 km of which 467 km is surfaced. Sixty-eight villages are connected with all weather roads. Rail route from Mumbai to Ahmedabad links Vapi also. Mumbai is the nearest airport.

TOURISM

Tourism sector has been assigned a high priority keeping in view the deep forest area and favourable climate. The prominent places of tourist interest are Tadkeshwar Shiva Mandir, Bindrabin, Deer park Khanvel, Vanganga lake and island garden, Dadra, Vanvihar Udhyan, Mini Zoo, Bal Udhyan, Tribal cultural museum, and Hirvavan garden at Silvassa. The development of Water Sports at Dudhani and Khandiv Van at Luhari are under way. Chauda gardens and the tentage accommodation at Dudhani are available for the tourists. The tourist accommodation *Yatri Bhavan* at Silvassa has been completed.

FESTIVALS

Normally all festivals of Hindus, Muslims and Christians are celebrated in the territory. Tribals celebrate their own festivals. *Diwaso* is celebrated by Dhodia and Varli tribes and *Raksha Bhandhan* is celebrated by Dhodia. Other festivals include *Bhawada* amongst Varlis and Koli tribes and *Khali Puja* by all tribes after harvesting of crops and *Gram Devi* before harvesting of crops.

GOVERNMENT

<i>Administrator</i>	: O.P. Kelkar
<i>Jurisdiction of High Court</i>	: Falls under the jurisdiction of the Mumbai High Court

DAMAN AND DIU

<i>Area</i>	: 112 sq km	<i>Population</i>	: 1,01,586
<i>Capital</i>	: Daman	<i>Principal Language</i>	: Gujarati

HISTORY AND GEOGRAPHY

Daman and Diu along with Goa was a colony held by the Portuguese even after Independence. In 1961, it was made an integral part of India. After conferring statehood on Goa on 30 May 1987, Daman and Diu was made a separate Union Territory. Daman lies about 193 km away from Mumbai. It is bound on east by Gujarat, on the west by the Arabian Sea, on the north

by the Kolak river and on the south by Kalai river. The neighbouring district of Daman is Valsad in Gujarat. Diu is an island connected by two bridges. The neighbouring district of Diu is Junagadh of Gujarat.

AGRICULTURE AND IRRIGATION

Total area under irrigation is 1,121.03 hectare. Important field and garden crops are paddy, *ragi*, *bajra*, *jowar*, groundnut, pulses and beans, wheat, banana, sapota, mango, coconut and sugarcane. There are no major forests in the territory.

INDUSTRY AND POWER

There are 1,600 small scale and medium scale industries in Daman and Diu. Two industrial areas have been developed by Omnibus Industrial Development Corporation at Daman. The other industrial areas are Dabhel, Bhimpore and Kadaiya. All villages have been electrified. Daman and Diu have got adequate power allocation from Central Sector power station in western region. At Daman there are three 66/11 KV sub-stations at Kachigam, Dalwada and Dabhel each of 30 MVA. In Diu there is one sub-station of 10 MVA.

TRANSPORT

Roads

The total length of road in Daman and Diu are 191 km.

Railways

There is no railway link with Daman and Diu. The nearest railway station from Daman is Vapi on western railway on Mumbai-Delhi route. The nearest railway station from Diu is Delvada on metre-gauge.

Aviation

There are airports both in Daman and Diu. Diu has been connected by air and there is regular air service from Mumbai to Diu.

TOURIST CENTRES

Important tourist places in Daman are Devka Beach, Jampore Beach, Kachigam Tank, Satya Sagar Udhyan, Dalwada, Kadaiya, Lake garden, Nani Daman Jetty garden, old churches, forts, Light House and Summer House. Jallender Beach, Nagoa Beach and Children's park at Ghoghla are some of the tourist centres in Diu.

GOVERNMENT

Administrator	:	O.P. Kelkar
Collector	:	Vijay Kumar

Presently there is a common High Court for Maharashtra and Goa and Union Territories of Daman and Diu and Dadra and Nagar Haveli, at Mumbai.

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Daman	72	62,101	Daman
2.	Diu	40	39,485	Diu

DELHI

Area	: 1,483 sq km	Population	: 94,20,644
Capital	: Delhi	Principal Languages	: Hindi, Punjabi, and Urdu

HISTORY AND GEOGRAPHY

Delhi finds prominent reference right from the times of the epic *Mahabharata*. Delhi went on passing from one kingdom to another, beginning with the Mauryas, Pallavas, Guptas of Central India, and then to the Afghan and the Muslim invaders for about four centuries, and finally, to the Mughals in the 16th century. In the latter half of the 18th century and early 19th century, the British rule engulfed Delhi and in 1911, it was the centre of all activities. After 1947, it became the capital of India and was made a Union Territory in 1956. Lying in the northern part of the country, Delhi is surrounded by Haryana on all sides except the east where it borders with Uttar Pradesh. In the history of Delhi, the 69th Constitutional amendment is a milestone as Delhi got a Legislative Assembly with the enactment of the National Capital Territory Act, 1991.

AGRICULTURE

Wheat, *bajra*, *jowar* and maize are major food crops. However, emphasis has now shifted from food crops to vegetables and fruit crops, dairy, poultry farming etc., as these are more remunerative than food crops in the territory.

INDUSTRY

Delhi is not only the largest commercial centre in northern India but also the largest centre of small industries. These are manufacturing a wide variety of items like television, tape recorders, light engineering machines and automobile parts, sports goods, bicycles and PVC goods including footwear, textiles, fertilizers, medicines, hosiery, leather goods, soft-wares, etc.

Delhi's new millennium industrial policy, emphasises setting up of High-tech and sophisticated industries in electronics, tele-communications, software industries, IT enabling services, etc. The industries, which are non-polluting and encourage high-value addition and depend largely on skilled manpower will be promoted.

For the purpose of relocating industrial units functioning in residential non-conforming areas, the government of National Capital Territory of Delhi took possession of 1,065 acres of land at villages Bawana, Holambi Kalan and

Holambi Khurd for developing new industrial estates. Work of construction of 378 flatted factories at Jhilmil Industrial Area for relocation of smaller units has been completed.

IRRIGATION AND POWER

Due to fast urbanisation taking place in the rural areas of Delhi, cultivable command area under irrigation is getting reduced day by day. Two schemes namely, 'Keshopur Effluent Irrigation Scheme Phase-III' and 'Improvement and extention of effluent irrigation system from Coronation Treatment Plant' are under execution. Irrigation of about 350 hectares with 52 state tubewells and 1,376 hectares from effluent water is being provided in the rural areas of NCT of Delhi. In addition about 4,900 hectares of land is being irrigated from western Yamuna Canal network under the Haryana Government.

The power demand of Delhi has touched an all time record of 2509 MW. The firm availability of power to Delhi Vidyut Board (DVB) from its own generating units at Rajghat Power House, IP Station and Gas Turbines including Badarpur Thermal Power Station is of the order of 850-900 MW. The remaining power is drawn from Northern Regional Grid. DVB has envisaged a number of generating projects to be taken up during the Ninth Plan. These include Bawana Phase-I, Bawana Phase-II and Pragati Combined Cycle Power Project to be established at Indraprastha Estate.

TRANSPORT

Delhi is well connected by roads, rail and air with all parts of India. It has three airports, Indira Gandhi International Airport for the international flights, Palam Airport for national flights and Safdarjung Airport for training purposes. It has three important railway stations, Delhi Junction, New Delhi Railway station and Nizamuddin Railway station, Delhi has three Inter-State Bus Terminals at Kashmere Gate, Sarai Kale Khan and Anand Vihar.

FESTIVALS

Being a cosmopolitan city, all major festivals of India are celebrated here. Moreover, some tourism festivals have become regular annual events of Delhi. Delhi Tourism and Transportation Development Corporation organises Roshnara Festival, Shalimar Festival, Qutab Festival, Winter Carnival, Garden Tourism and Mango Festival every year.

TOURIST CENTRES

Important tourist centres are Lal Quila (Red Fort), Jama Masjid, Qutab Minar, India Gate, Laxmi Narayan Mandir (Birla Mandir), Humayun's Tomb, Lotus Temple, etc. Delhi State Tourism and Transportation Development Corporation conducts city sight-seeing and excursion tours. The Corporation has also introduced adventure tourism activities such as para-sailing, rock-climbing and boating in Delhi. It is also running five Coffee Homes.

GOVERNMENT

<i>Lt. Governor</i>	: Vijay Kapoor	<i>Chief Secretary</i>	: P.S. Bhatnagar
<i>Chief Minister</i>	: Smt Sheila Dixit	<i>Chief Justice</i>	: Arijit Pasayat
<i>Speaker</i>	: Ch. Prem Singh	<i>Jurisdiction of</i>	: Delhi
<i>Mayor</i>	: Shanti Desai	<i>High Court</i>	

LAKSHADWEEP

<i>Area</i>	: 32 sq km	<i>Population</i>	: 51,681
<i>Capital</i>	: Kavaratti	<i>Principal Language</i>	: Malayalam

HISTORY AND GEOGRAPHY

Not much is known of the early history of these islands. The islands supposed to have been inhabited first are Amini, Kalpeni, Andrott, Kavaratti and Agatti. It was earlier believed that the islanders were originally Hindus and converted to Islam under the influence of Arab traders sometime in the 14 century. But archaeological evidence recently unearthed indicates that there were Buddhist settlements around the sixth or seventh century and the earliest Muslim converts or settlers pre-date the year 139 AH of the Hijra year (eighth century) of which date gravestones have recently been discovered in Agatti. This would tend to bear out the traditional belief that Islam was brought to the islands by the Arab Saint, Ubaidulla in 41 AH.

Probably independent till the 16 century the islands were driven to seek the assistance of Raja of Chirakkal to help rid them of the Portuguese attempt to establish domination. This enabled him to establish his authority and, later, the islands were transferred in *jagir* to Ali Raja, head of Moplah community in Cannanore, who later became an independent ruler himself. The Arakkal rule was not popular, and in 1787, Tipu Sultan acceded to the petitions of northern islanders to annex these islands. After the fall of Tipu Sultan, the islands were passed to East India Company but continued to be ruled *de facto* by the rulers of Cannanore till their ultimate annexation by the British in the early 20 century. In 1956, the islands were constituted into a single territory, and since then, have been directly administered by the Union Government through an Administrator. The Laccadives, Minicoy and Amindivi group of islands were renamed as Lakshadweep in 1973. Lakshadweep, a group of coral islands consist of 12 atolls, three reefs and submerged sand banks. Of the 36 islands, only 11 are inhabited. These lie scattered in the Arabian Sea about 280 km to 480 km off Kerala coast between 8° and 12° 3' north latitude and 71° and 74° east longitude.

AGRICULTURE

Coconut is the only major crop with a production of 27.7 million nuts per year. Area under cultivation is about 27.50 sq km.

FISHERIES

Fishing is another major activity. The sea around the island is highly productive. The islands stand first in the country in per capita availability of fish.

INDUSTRY

Coconut fibre extraction and conversion of its fibre products is the main industry in the Islands. Under government sector there are seven coir fibre factories, seven coir production-cum-demonstration centres and four fibre curling units, functioning under coir sector. These units produced around 400 MT coir fibre and 50 MT coir yarn in addition to other coir products like curled fibre, corridor mat, mat and mattings during 1997-98. These kind of small coir units are also functioning under private sector in different islands.

TRANSPORT

MV Tipu Sultan, *MV Bharath Seema* and *MV Dweep Setu* carry passengers to and from the islands to Cochin and Beypore ports, *MV Ubaidulla*, *MV Thinnakara*, *MV Laccadives* and *MV Cheriya* carry cargo to islands from mainland. *MV Suheli* 60 MT oil barge is mainly utilised for providing bunker (fuel) to inter island tarry vessels. *Kadeeja Beevi* and *Humeedath Bi* ply between all islands other than Minicoy. Besides there is an island to island and island to mainland helicopter service. Indian Airlines connects Agatti and Kochi daily and Agatti and Goa twice weekly.

TOURIST CENTRES

Winner of National tourism award for most eco-friendly organisation for the year 1996-97, tourism is developing into an important industry. Bangaram is an international tourist resort.

GOVERNMENT

Administrator : Chaman Lal

Jurisdiction of High Court : Falls under jurisdiction of Kerala High Court

PONDICHERRY

Area : 492 sq km Population : 8,07,785

Capital : Pondicherry Principal Languages : Tamil, Telugu, Malayalam, English and French

HISTORY AND GEOGRAPHY

The territory of Pondicherry comprises the former French establishment Pondicherry, Karaikal, Mahe and Yanam which lie scattered in South India. Pondicherry, the capital of the territory was once the original headquarters of the French in India. It is bounded on the east by the Bay of Bengal and

on the other three sides by the South Arcot district of Tamil Nadu. About 150 km south of Pondicherry on the east coast lies Karaikal. Mahe is situated on the Malabar coast on the western ghats surrounded by Kerala. It can be reached from Calicut Airport which is 70 km from Mahe. Yanam is situated adjoining the East Godavari district of Andhra Pradesh and is about 200 km from Vishakapatnam airport.

AGRICULTURE

Nealry 45 per cent of the population in the Union Territory is engaged in agriculture and allied pursuits. Ninety per cent of the cultivated area is irrigated. Besides rice other minor food crops, viz., ragi, bajra and pulses are grown in the Union Territory. The principal cash crops are sugarcane, groundnut and cotton. During 1999-2000, 26,436 hectares had been cultivated under rice. Foodgrain production is estimated to be 1,05,584 MT. Production of cotton and sugarcane will be in order of 2,840 bales of 180 kg and 2,45,225 MT.

INDUSTRY

The industrial sector in Pondicherry employed about 8,000 persons in the early fifties. With an investment of over Rs 1,364 crore, industries are providing a livelihood to 74,454 people as on 31 March 2000. The industrial units are manufacturing items such as textiles, computers and peripherals, UPS and other electronic products, pharamaceuticals, leather goods, earth moving equipments, sugar, yarn, spirit, beer, potassium chlorate, rice-bran oil, auto parts, disposable syringes, roofing sheets, washing machines, bio-polymers, steel tubes, LPG cylinders, etc.

IRRIGATION

Irrigation in Pondicherry is mainly through tanks and tubewells. There are 84 tanks with an ayacut of 6,456 ha of which two are comparatively bigger (Oustery and Bahour). The tubewell irrigation system is almost in the private sector. There is a major proposal to rehabilitate all the tanks in the Pondicherry region at a cost of Rs 34.73 crore with the aid of the European Economic Commission in order to improve ground water recharge and stabilise the existing ayacut.

POWER

The Power requirements of Union Territory are met by availing share from the Central Generating Stations and by purchasing power from neighbouring State Electricity Boards. A combined Cycle Gas Power Plant of 32.5 MW established at Karaikal is under operation with effect from 3 January 2000. The T.R. Pattinam 110/11 KV Sub-station, associated with Gas Power Plant was commissioned on 16 July 1997. Rural Electrification was completed in 1972. The 230/110 KV sub-station at Bahour is nearing completion.

TRANSPORT

Roads

The total length of roads is 576.637 km, of which national highways is 68 566 km, state highways 24.849 km, other roads 225.556 km and rural road 257.666 km.

Railways

Pondicherry is connected to Chennai by metre-gauge and the nearest broad-gauge link is Villupuram junction at a distance of 40 km.

Aviation

The nearest main airport Chennai is 160 km from Pondicherry.

TOURISM

Pondicherry has a rich French cultural heritage, having been the capital of the French Colonies in India since the 17 century. Pondicherry, Karaikal, Yanam and Mahe were transferred to the Indian Union in 1954. The French legacy is visible in the well-planned town, neatly laid roads, wide and vibrant beaches; beautiful promenade, architecturally imposing churches and public buildings and the statues of Joan of Arc and Joseph Francois Dupleix. French Boulevard town, Sri Aurobindo Ashram, Auroville Museum, Chunnambar resort, botanical garden are some other places of tourist interest.

GOVERNMENT

<i>Governor</i>	: Dr Rajani Rai	<i>Chief Secretary</i>	: T.T. Joseph
<i>Chief Minister</i>	: P. Shanmugam	<i>Jurisdiction of</i>	: Falls under jurisdiction
<i>Speaker</i>	: A.V. Subramanian	<i>High Court</i>	of Madras High Court

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

S.No.	District	Area (sq km)	Population	Headquarters
1.	Pondicherry	293	6,08,338	Pondicherry
2.	Karaikal	160	1,45,703	Karaikal
3.	Mahe	9	33, 447	Mahe
4.	Yanam	30	20,297	Yanam

30 Diary of National Events

(October 1999-September 2000)

OCTOBER

- 2 Prime Minister Atal Bihari Vajpayee releases a multimedia compact disk on the life of Mahatma Gandhi in New Delhi.
- 5 India's most sophisticated medium-range surface-to-air missile Akash is successfully test fired from the interim test range at Chandipur-on-sea.
- 7 Karnataka Chief Minister J.H. Patel resigns following the defeat of the Janata Dal (United) in the State Assembly elections.
- 9 To avoid Y2K problems, aircraft on international routes are to fly above 12,000 feet and those in the domestic sector below that level on the intervening night of 31 December and 1 January.
- 11 President K.R. Narayanan invites Atal Bihari Vajpayee to form Government.
- 13 A 70-member coalition government led by Atal Bihari Vajpayee is sworn in in New Delhi.
- 16 The Konkan Railway develops an innovative "anti-collision device" to prevent accidents.
- Deputy Chairperson of Rajya Sabha Najma Heptulla is unanimously elected President of the Inter-Parliamentary Union at the 102nd Inter-Parliamentary Conference in Berlin.
- The second National Commission on Labour is constituted.
- 17 Pakistan announces a unilateral military de-escalation along the borders with India and offers to hold an "unconditional result-oriented" dialogue with India on all issues, including Kashmir.
- A 42-member Congress ministry headed by S.M. Krishna is constituted in Karnataka.
- 18 Congress Legislature Party leader Vilasrao Deshmukh is sworn in Chief Minister of Maharashtra. Chhagan Bhujbal becomes the new Deputy Chief Minister.
- 19 Congress President, Sonia Gandhi resigns from the Bellary constituency in Karnataka and decides to assume the post of leader of Opposition in the Lok Sabha.
- A cyclone hits Orissa, West Bengal and Andhra Pradesh killing at least 79 people and leaving more than 1,000 injured.

- 20 Union Cabinet accepts the recommendations of the Backward Castes Commission to bring Jats and various other castes and sub-castes under the Other Backward Castes category.
- Government prohibits use of fixed dose combinations of Vitamin B complex for humans with effect from 1 January 2001.
- 21 Filmmaker B.R. Chopra is named recipient of the 1998 Dadasaheb Phalke Award.
- Information and Broadcasting Minister Arun Jaitely lifts ban on Pakistan television and bans cable operators from airing a TB6 channel.
- 22 CBI files first chargesheet in Bofors case naming among others the late Prime Minister Rajiv Gandhi and Italian businessman Ottavio Quattrocchi.
- G.M.C. Balayogi is unanimously elected Speaker of the 13th Lok Sabha.
- 23 Vilasrao Deshmukh-led Democratic Front government in Maharashtra wins vote of confidence in the State Assembly.
- The appellate body of the World Trade Organisation rules in favour of India in its dispute with Turkey regarding imposition of quantitative restrictions on textile items from India.
- 24 Government constitutes a 10-member expert committee to examine existing laws and innovations in corporate law and their governance.
- Prime Minister Atal Bihari Vajpayee announces a special advance assistance of Rs 200 crore to Orissa for the cyclone relief operations.
- 25 India and the United Arab Emirates sign a extradition treaty.
- 27 P.M. Sayeed is unanimously re-elected Deputy Speaker of the Lok Sabha.
- 29 Fierce cyclone rips through Orissa.
- Government introduces Prevention of Money-Laundering Bill, 1999, to deal with wealth acquired through narcotics trafficking and other heinous crimes.
- RBI frees Rs 7,000 crore into the banking system with one per cent cut in the cash reserve ratio (CRR) which is to be reduced in two phases of 0.5 per cent each, starting November 6 and November 20.
- 30 Prime Minister declares Orissa cyclone a national calamity and sanctions an immediate release of Rs 300 crore to the State.
- 31 Former President Shanker Dayal Sharma is accorded the Indira Gandhi Award for his contribution to national integration.

NOVEMBER

- 1 Harish Salve is appointed Solicitor-General of India.
- The Haryana Government abolishes octroi and doubles old-age pension from Rs 100 to Rs 200.
- The Supreme Court stays the Mumbai special court order sentencing Harshad Mehta to rigorous imprisonment for five years and admits his petition challenging conviction in the diversion of Rs 38.97 crore Maruti Udyog Limited Fund in the multicrore securities scam case.
- 2 Former Chief Justice of India Jagdish Sharan Verma is appointed Chairman of the National Human Rights Commission.
- Government announces that all eleven major ports in the country are Y2K-compliant.
- The third cricket test match between India and New Zealand ends in a draw. India wins the series by 1-0.
- 3 A suicide squad of Pakistan-backed militant outfit Lashkar-e-Toiba storms the headquarters of the Indian Army's 15 corps in Srinagar killing a Major and five other people.
- The Indian quota for next year's Haj at Jeddah is increased from 91,000 to 1,20,000 pilgrims.
- 4 A World Bank mission agrees to provide \$600 million loan to the Rajasthan Electricity Board.
- 5 Pope John Paul II, the temporal head of Vatican arrives in New Delhi.
- Prime Minister announces an additional grant of Rs 100 crore from the National Calamity Relief Fund for cyclone-ravaged Orissa.
- India and Russia sign a defence protocol for joint manufacturing and licensed production of Sukhoi-30 combat jets and submarines and sale of Russia-made long-range bomber planes, airborne early warning systems and aircraft carriers.
- 6 M.S. Swaminathan is awarded UNESCO Gandhi Gold Medal for extending the benefits of biotechnology to the developing countries.
- 7 The Indian army is put on maximum alert following increased "activities" of China along the Indo-China border in the Arunachal Pradesh sector.
- 8 Union Home Ministry extends ban on National Liberation Front of Tripura and All Tripura Tiger Force by another six months.
- The Centre waives telephone bills of up to Rs1,000 in the rural areas of cyclone-affected districts in Orissa besides other concessions in telephone rental and call charges.

- Sachin Tendulkar and Rahul Dravid create a record one-day partnership of 331 runs in the second one-day international cricket match against New Zealand in Hyderabad.
- 10 Union Cabinet decides to extend SPG security cover to Congress President Sonia Gandhi and her children.
- 12 Prime Minister, Atal Bihari Vajpayee reconstitutes the economic advisory council, the task force on infrastructure and the Inter-State Council.
- Ram Prakash Gupta is sworn in Chief Minister of Uttar Pradesh.
- Pakistan is suspended from the Commonwealth Council of Ministers.
- The Government announces a new five-year textile export quota policy.
- 14 Orissa cyclone toll touches 9,504.
- 15 M.M. Rajendran takes over as Governor of Orissa.
- Union Law Ministry decides to set up a chain of permanent Lok Adalats throughout the country.
- 16 National Thermal Power Corporation is buying the 100 per cent Government stake in National Hydro Electric Power Corporation for Rs 4,500 crore.
- 17 India beats New Zealand in a one-day cricket match in New Delhi and wins the series by 3-2.
- The Centre sets up a sub-committee to look into the financial, developmental and security needs of Jammu & Kashmir.
- 18 Housing & Urban Development Corporation is financing two schemes for building 75,000 housing units for the economically weaker sections in cyclone-affected districts of Orissa.
- The Andhra Pradesh Forensic Science Laboratories becomes the first government institution in the country to qualify for receiving the International Standards Organisation (ISO 9002) certification.
- The Central Ministries directed to earmark 10 per cent of their budget for the development of the North-Eastern region.
- 19 Union Cabinet clears the recommendations of the National Commission for Backward Classes to bring 126 more castes under the list of the Other Backward Classes.
- The President appoints Vinod Chandra Pande Governor of Bihar while Viren J. Shah is named Governor of West Bengal. Ved Marwah is appointed Governor of Manipur and Mohd. Fazal Governor of Goa.
- Union Cabinet clears the introduction of Geographical Indication of Goods (Registration and Protection) Bill in the next session of Parliament.
- Dr Mohd. Yunus gets Indira Gandhi Prize for 1999.

- State Bank of India launches gold deposit scheme.
- ISRO enters into a collaboration with its French counterpart, Centre National d'Etudes Spatiale (CNES), to research tropical climate across the globe.
- 20 A hotline is commissioned at the Nathu La pass for establishing tele-link between India and China in Sikkim sector.
- The Centre sanctions Rs 300 crore ex-gratia assistance for relief operations in cyclone-ravaged Orissa.
- Information & Broadcasting Ministry recommends to the Union Cabinet a review of the Print Media Policy of 1955 to permit the publication of Indian editions of specialised journals dealing with science and technology.
- 21 G.P. Goenka is elected new President of FICCI.
- India and France agree to conduct joint research to develop advanced laser technology for effective water management and utilisation.
- 22 Prime Minister expands his Council of Ministers and effects changes in portfolios of some ministers.
- Government sets up a committee to review the structure of Prasara Bharati with Infosys Chairman and CEO N.R. Narayana Murthy, Discovery channel head Kiran Karnik and marketing expert Shunu Sen as its members.
- Union Government announces nominations of Lata Mangeshkar, Fali Nariman, 'Cho' Ramaswamy and Nana Deshmukh to the Rajya Sabha.
- Former BJP Rajya Sabha member Vishnu Kant Shastri is appointed Governor of Himachal Pradesh.
- 23 Assam Governor, Lt Gen S.K. Sinha is named new chairman of the North Eastern Council.
- 24 A 11-member Indian National Congress (Sardinha) Ministry led by Francisco Sardinha is sworn in in Goa.
- Japanese Prime Minister tells Indian External Affairs Minister that Japan could consider lifting of economic sanctions only after India signs the Comprehensive Test Ban Treaty.
- 25 Dr A.P.J. Abdul Kalam, Scientific Adviser to the Defence Minister, is appointed Principal Scientific Adviser to the Government of India with a Cabinet rank.
- 26 Centre announces Rs 300 crore package for the re-construction of small-scale industries affected by cyclone.
- 27 BJP suspends former Uttar Pradesh Chief Minister Kalyan Singh from

the party's primary membership.

- Lt Gen (Retd) J.F.R. Jacob assumes charge as Governor of Punjab.
- 30 The Francisco Sardinha government in Goa wins confidence vote in the State Assembly.
- Sociologist Prof M. N. Srinivas, 83, dies.
- According to a report by the joint UN Programme on HIV/AIDS (UNAIDS) and WHO India has four million HIV-infected people.

DECEMBER

- 2 The Vietnamese President Tran Duc Luong arrives in New Delhi. The two countries sign four agreements promoting political and economic partnership.
- Lalit Mansingh takes over as new Foreign Secretary.
- The Rajya Sabha passes three Bills -Marriage Law (Amendment) Bill, Indian Majority (Amendment) Bill, 1999 and Administrators - General Bill, 1999.
- 3 Insurance Regulatory Development Authority Bill is passed in Lok Sabha. The legislation provides for entry of private Indian and foreign companies into the insurance business.
- The Lok Sabha passes the Foreign Exchange Management Act (FEMA) Bill to replace Foreign Exchange Regulation Act along with the Prevention of Money Laundering Bill.
- V.S. Ramadevi becomes first woman Governor of Karnataka.
- 6 Orissa Pradesh Congress Committee President, Hemanand Biswal replaces Giridhar Gamang as the new Chief Minister.
- India's Yukta Mookhey is crowned Miss World at the Miss World pageant in London.
- 7 Judges adopt 15-point code of ethics at the Chief Justices' annual conference which includes declaration of assets held by them and their kin.
- 8 Rajya Sabha gives assent to the Insurance Regulatory Development Authority Bill (IRDA).
- 9 Rajya Sabha passes Foreign Exchange Management Act (FEMA) Bill.
- 10 BJP expels former Uttar Pradesh Chief Minister Kalyan Singh from the party for six years.
- United States multinational Cogentrix pulls out from the \$ 1.3 billion power project in Karnataka, citing delays in government approvals and resolving public interest litigations.

- Parliament approves the Special Protection Group (Amendment) Bill, 1999 to extend "proximate security" for 10 years to former Prime Ministers and their immediate family members where the level of threat is justified.
- 11 Prime Minister Atal Bihari Vajpayee launches Rs 100 crore National Venture Fund for the software and Information Technology industry.
- Lok Sabha passes Indian Majority Amendment Bill, Administrators' General Amendment Bill and Notaries Amendment Bill.
- 13 Prime Minister lays foundation of the 800-MW Parbati hydel power project in Sainj valley and announces Rs 40 crore financial assistance for Himachal Pradesh.
- 15 Haryana Governor dissolves State Assembly on recommendation of Chief Minister.
- 16 The Centre formally launches the second phase of Rs 1,400 crore National AIDS Control Programme.
- 17 The expelled BJP leader Kalyan Singh launches a new political outfit, Rashtriya Kranti Party (RKP).
- Congress(I) leaders Pranab Mukherjee and S. Jaipal Reddy are conferred "Outstanding Parliamentary Awards" by the Vice-President for the year 1997 and 1998 respectively.
- The United States lifts sanctions on 51 Indian entities from the list of 200 following the Pokhran nuclear tests of May 1998.
- President K.R. Narayanan gives away Sangeet Natak Academi Awards for 1998.
- 18 Sri Lankan President, Chandrika Kumaratunga, narrowly escapes an attempt on her life while 11 people are killed in a suspected suicide bomb attack in Colombo.
- Test-firing of *Trishul*, a surface-to-air missile, is successfully conducted at Kochi.
- 20 Andhra Pradesh Governor, Dr C Rangarajan, lays the foundation-stone of the Indian School of Business in Hyderabad.
- 22 Lok Sabha passes Trade Marks Bill 1999 and also a Bill to amend the Copyright Act of 1957.
- 23 Women's Reservation Bill is introduced in the Lok Sabha on the last day of the winter session of the Parliament.
- 24 An Indian Airlines Airbus - IC-814, carrying 189 people on board is hijacked after it took off from Kathmandu en-route⁴ to New Delhi.
- Prime Minister announces a package of nearly Rs 12,000 crore for Bihar covering the Koel Karo and power grid projects, besides an action plan

for controlling flood in Kosi area.

- 25 Hijackers of the Indian Airlines Airbus suspected to be Islamic militants demand the release of five militants jailed in Kashmir. The hijackers after having stabbed one to death, release 27 passengers in Dubai and one in Kandahar.
- 26 Former President Dr Shanker Dayal Sharma passes away.
- 28 Hockey wizard Dhyan Chand and sprint queen P.T. Usha are selected as Indian Sports persons of the century by the Indian Olympic Association.
- 31 Eight-day hijack crisis of the Indian Airlines flight ends with the Government striking a deal with the hijackers to free three jailed militants in exchange for 155 hostages on board.

JANUARY 2000

- 1 The country enters the year 2000 without any Y2K problems emerging in any of the critical sectors like power, telecommunications, civil aviation, etc.
- 3 16 people are killed and 23 injured in a powerful mine blast in Jammu.
- 5 The International Tennis Federation names Leander Paes and Mahesh Bhupathi as its Men's Doubles World Champions.
- 6 Five Pakistani hijackers of Indian Airlines IC 814 are identified and their four key accomplices arrested in Mumbai.
- 7 The K. Subrahmanyam Committee probing 'intelligence failure' which led to the Pakistani incursions in the Kargil sector in April 1999 submits its report.
- The teenaged head of one of the four sects of Tibetan Buddhism, Karmapa Lama Ugyan Trinley Dorje, escapes from China to reach Dharmasala in India.
- 8 Government reconstitutes the Indira Gandhi National Centre for Arts Trust.
- Election Commission announces three-phased polling scheduled for Bihar, Orissa, Manipur and Haryana State Assemblies.
- 9 Australia win 3-0 in the Cricket Test Series being played between Australia and India in homeland.
- 10 Information and Broadcasting Minister Arun Jaitley inaugurates the 31st International Film Festival of India in New Delhi.
- 12 T.S. Krishna Murthy is appointed Election Commissioner.
- 13 Deputy Prime Minister of Russia, Viktor Khristenko, arrives in New Delhi for talks on bilateral cooperation.

- 14 Government reduces interest rate on small savings and public provident fund by one per cent.
- President K.R. Narayanan confers Gandhi Peace Prize for 1999 on social worker Baba Amte.
- 17 Workers in 11 major ports across the country strike work as talks with Government on better wages fail.
- 18 Prime Minister of Singapore arrives in New Delhi on a six-day trip to India.
- Union Commerce and Industry Minister launches the Rs 40.75 crore Tannery Modernisation Scheme.
- 19 Government allows Indian companies to freely access American Depository Receipt (ADR)/Global Depository Receipt (GDR) markets without prior approval of Ministry of Finance.
- 20 The ten-day 31st International Film Festival of India (IFFI-2000) concludes. The Indian entry *Karunam* directed by Jayaraj shares Golden Peacock award with Japanese film *Poppaya* directed by Yasho Furhata. Silver Peacock award for the Most Promising Asian Director goes to Thai director Nonzee Nimibutr for the film *Nang Nak*. Sri Lankan legend Lester James Peries receives Lifetime Achievement award
- M.A. Chidambaram, doyen of South Indian industry, passes away
- 21 Indian defence scientists successfully test the 'fire-and-forget guidance system' used for mounting on Nag which makes it the first third-generation anti-tank missile in the world.
- 22 The five-day old strike by port and dock employees at the 11 major ports in the country is called off following an agreement reached between Union Minister of Surface Transport, Rajnath Singh, and the workers' representatives.
- At least 25 Pakistani soldiers are killed in Akhnoor sector of the Jammu division when Indian troops repulsed an attack by them on a post in the Chhamb area.
- Prime Minister announces a Rs 10,271 crore agenda for the socio-economic development of North-East and Sikkim
- 23 The two-day ministerial meeting of the Indian Ocean Rim Association for Regional Cooperation (IORARC) concludes.
- About 13.5 crore children are given Polio dose in 6,50,000 centres all over the country in the fourth and final round of the nationwide Pulse Polio Immunization (PPI) programme.
- 24 President gives assent to the Constitution (79th Amendment) Act, 1999 extending reservations for Scheduled Castes and Scheduled Tribes in

Lok Sabha and State Assemblies for a further period of 10 years beyond 25 January 2000.

- Nigerian President Olusegum Obasanjo arrives in New Delhi.
- Union Government issues ordinance for the reconstitution of the Telecom Regulatory Authority of India and creation of a Telecom Dispute Settlement and Appellate Tribunal.
- 25 President addresses the nation on the eve of the Golden Jubilee of the Indian Republic and cautions people against social and economic disparities.
- 506 gallantry and distinguished service medals are announced. *Ashok Chakra* is awarded posthumously to Maj. Sudhir Kumar. *Mahavir Chakra* is awarded to Sepoy Imlikum Ao for his role in Kargil Operation.
- Government begins the process of privatising Indian Airlines and approves the sale of Modern Foods India Limited
- 26 President K.R. Narayanan takes the salute of the 50th annual Republic Day Parade. Nigerian President Obasanjo is Chief Guest at the celebrations.
- Doordarshan launches two new channels - *Kashir* a Kashmiri channel and *Gyan Darshan* an educational channel.
- 27 President releases an album of the national anthem, in commemoration of 50 years of adoption of the Constitution.
- 28 M.S. Verma, former Chairman of the State Bank of India, is the new chairperson of the reconstituted Telecom Regulatory Authority of India (TRAI) for a three-year term.
- India and Nigeria sign an agreement on mutual cooperation in prevention of illicit drug trafficking.
- 31 Britain imposes cash bonds of 10,000 pounds on Indians seeking short-term visas for visiting the United Kingdom.
- Union Finance Minister Yashwant Sinha urges world leaders at 30th World Economic Forum at Davos to ensure equity in globalisation.
- Several socio-cultural groups in Varanasi disrupt shooting of Deepa Mehta's film *Water* alleging that the film intended to denigrate India's image and culture.

FEBRUARY

- 1 Dara Singh alias Ravinder Kumar Pal, accused in the murder of the Australian missionary Graham Stuart Staines and his two sons, is arrested by Mayurbhanj district police.
- 2 Former Tamil Nadu Chief Minister Ms Jayalalitha is sentenced to

Diary of National Events

- rigorous imprisonment for one year and a fine of Rs 1,000 on charges of corruption.
- Peter Bleach and five Latvians convicted in the Purulia arms drop case are sentenced to rigorous life imprisonment and a fine of Rs 25,000 each on the charge of conspiring to wage a war against the State.
 - 3 Renowned *tabla* player Ustad Allarakha passes away.
 - India and UK agree to liberalise air services to and beyond the two countries.
 - 8 Centre raises the export quota on onions to two lakh tonnes for two months and also increases import duty on sugar to 60 per cent.
 - Indonesian President Abdurrahman Wahid arrives in New Delhi on a two-day visit.
 - Union Finance Minister confers the first National Award for Excellence in Corporate Governance-1999 on Infosys Chairman Narayana Murthy.
 - 12 At least 27 people are killed and several injured in the first phase of assembly polls in Bihar and Manipur.
 - Sitar maestro Pandit Ravi Shankar receives highest French Civilian award "Commandeur de la Legion d'Honneur".
 - 13 Government announces setting up of a 11-member Constitution Review Commission to be chaired by Justice M.N. Venkatachaliah.
 - 15 Union Cabinet gives the nod to a new National Population Policy.
 - Centre decides to freeze for another 25 years the number of representatives in the Lok Sabha, on the basis of the 1971 census, making the total strength of the Lok Sabha remain at 543.
 - Government approves a Rs 8,454 crore package for the revival of Steel Authority of India Limited.
 - 16 India and Switzerland sign an agreement to promote and protect mutual investments.
 - Doordarshan signs a two-year agreement for international cricket played in India with Australia's sports television major Channel 9.
 - 18 Cambodian Prime Minister Samdech Hun Sen arrives in New Delhi on a two-day official visit.
 - 19 Doordarshan signs a \$ 43.75 million pact with Transworld International-Stracon for global marketing rights of International Cricket played in India, covering four-and-a-half years.
 - 20 Naxalites blow up a pick-up truck through a landmine blast killing 22 police personnel near Narayanpur Police Station in Bastar district of Madhya Pradesh.

- Sachin Tendulkar quits as Indian cricket team captain.
- *Sahitya Akademi* announces awards for 22 eminent litterateurs in the country.
- *Bariwali*, a film directed by Rituparno Ghosh and produced by Anupam Kher, bags the Netpac award given for the Most Outstanding Asian film at the Berlin film festival.
- With a 3-1 win over Thailand, India qualifies for Thomas Cup Men's final to be held at Kuala Lumpur in May 2000.
- 21 Prime Minister presents the Shanti Swarup Bhatnagar prizes for 1998 and 1999.
- India and China sign a bilateral agreement to facilitate Beijing's entry into the World Trade Organisation.
- Salman Rushdie's *The Ground Beneath her Feet* bags the Best Book award and Raj Kamal Jha's *The Blue Bedspread* is adjudged the Best First Book at the Commonwealth Writers Prizes for Eurasia.
- 24 Lawyers observe a nationwide strike to protest against the amendments to the Civil Procedure Code.
- Government decides to order a review of the national security set-up as the Subrahmanyam Committee report is tabled in the Lok Sabha.
- 25 Union Railway Minister Mamata Bannerjee presents the Railway Budget, announcing a 5 per cent increase in freight rates for commodities barring essential items.
- The INLD-BJP alliance in Haryana and BJD-BJP alliance in Orissa win by a comfortable majority in assembly elections whereas Bihar heads for a hung assembly.
- WHO declares India a guinea-worm-free state.
- 26 Saurav Ganguly is appointed captain for the five-match one-day internationals against South Africa and the Coca Cola Cup Series at Sharjah.
- 28 Union Finance Minister Yashwant Sinha presents the Economic Survey to Parliament.
- 29 The Union Budget 2000-2001 is presented in Parliament by Finance Minister.

MARCH

- 2 A 34-member United Front Ministry headed by Chief Minister Wahengbam Nipamacha Singh is sworn in in Manipur.
- Om Prakash Chautala of INLD is sworn in Chief Minister of Haryana at Kurukshetra.

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- 3 Samata Party leader Nitish Kumar is new Chief Minister of Bihar.
- 4 Veteran Communist leader Geeta Mukherjee passes away.
- 5 A 25-member BJD-BJP coalition ministry headed by the BJD President, Naveen Patnaik, takes oath of office in Orissa.
- 6 Chief Minister of Meghalaya, B.B. Lyngdoh, resigns.
- India and China begin bilateral security dialogue on global and regional issues of mutual interest.
- 8 Gujarat Government withdraws an earlier order which allows its employees to join the RSS.
- E.K. Mawlong is sworn in Chief Minister of Meghalaya.
- 10 Bihar Chief Minister Nitish Kumar submits his resignation to Governor.
- Hindi author Nirmal Verma and Punjabi novelist Gurdial Singh are named joint winners of Jnanpith Award for 1999.
- 11 Rabri Devi of RJD is sworn in Chief Minister of Bihar and is to prove majority within 10 days.
- K.S. Sudershan is new RSS Chief.
- 13 Lok Sabha approves the Telecom Regulatory Authority of India (Amendment) Bill, 2000 which seeks to bifurcate it into a tribunal and a Regulator.
- 15 Lok Sabha passes Railway Budget for 2000-2001.
- Rajya Sabha approves Telecom Regulatory Authority of India (Amendment) Bill 2000, already passed by the Lok Sabha
- 16 The Cabinet decides to include 90 more castes in the list of Other Backward Classes (OBC) eligible for job reservation.
- 17 India wins the fourth one-day match against Australia at Vadodara.
- Pondicherry Chief Minister R.V. Janakiraman resigns after losing majority following TMC's withdrawal of support.
- 19 US President Bill Clinton arrives in New Delhi on a five-day State visit.
- 21 Prime Minister A.B. Vajpayee and US President Bill Clinton sign a "Vision Statement", defining the direction as well as structure of a new engagement between the world's two largest democracies.
- US President further eases economic sanctions against India to restart the \$ 25 million Financial Institutions Reform and Expansion (FIRE) programme to modernise Indian financial markets.
- Unidentified militants gun down 35 Sikhs at Chatti Singhpora village in Anantnag district of the Kashmir Valley.

- India and US sign an agreement on the formation of an Indo-US Science and Technology Forum.
- 22 India's first third-generation satellite, Insat-3B is launched successfully by Europe's latest Ariane-5 rocket from Kourou in French Guyana.
- Government announces an increase in the ex-storage prices of LPG, kerosene and aviation turbine fuel to reduce the deficit in oil pool account.
- Congress (I) leader, P. Shanmugham, is sworn in Chief Minister of Pondicherry.
- India and US sign an agreement on cooperation in energy and environment.
- 24 India's hockey legend Udham Singh (82) passes away.
- Indian and US businessmen sign nine agreements at Mumbai totalling \$ 3 billion.
- Dhirubhai Ambani, Chairman, Reliance Industries, is presented 'Entrepreneur of the 20th Century Award' by William Daley, US Commerce Secretary, during the visit of US President Bill Clinton in Mumbai.
- 28 India and Vietnam sign a defence pact for greater military cooperation.
- 29 National Commission for reviewing the working of the Constitution, sets up 10-member expert group for consideration of the areas identified by it.
- India and Nigeria sign an oil-deal at Abuja for strategic energy partnership.
- Government decides to bring a Bill to amend the Constitution to undo the 50 per cent cap on reservation of jobs for the SC/ST candidates set by Supreme Court.
- Cabinet approves the enactment of the Registration (Amendment) Bill-2000 paving way for changes in Registration Act of 1908, Transfer of Property Act, 1882, and Indian Stamp Act, 1899.
- 30 President honours 70 eminent persons with *Padma Vibhushan*, *Padma Bhushan* and *Padma Shri* awards.
- 31 Turkish Prime Minister, Bulent Ecevit, arrives in New Delhi on a three-day official visit.
- Union Commerce Minister announces new Export-Import (Exim) Policy for 2000-2001 which includes lifting of Quantitative Restrictions on import of 714 items.

APRIL

- 1 Reserve Bank of India slashes the Bank Rate and Cash Reserve Ratio by 1 per cent and also reduces savings deposit rate from 4.5 to 4 per cent.
- Union Government raises price of desulphurised petrol and diesel by 13 paise and 52 paise per litre respectively in the Capital.
- 2 Supreme Court in a judgement, passes a ruling that the holy book of Sikhs, *Guru Granth Sahib* is a juristic person.
- Chief Minister of West Bengal, Jyoti Basu, commissions the mother unit of Rs 5,170 crore Haldia Petrochemicals Limited project and dedicates the 420-KPTA Naptha Cracker Plant to the nation.
- 4 CBI files chargesheets against the Bihar Chief Minister, Rabri Devi, and former Chief Minister Laloo Yadav in the 'disproportionate assets' case.
- Prime Minister A.B. Vajpayee inaugurates a website, Samvidhan.com, which contains the Indian Constitution in Hindi. The website is a part of the Hindi portal, Webdunia.com.
- 5 Bihar Chief Minister Rabri Devi and her husband Laloo Yadav surrender in the 'disproportionate assets' case before the designated court of the CBI.
- 6 Government permits use of Liquefied Petroleum Gas (LPG) as an auto-fuel.
- President confers gallantry awards and decorations on 55 defence personnel including 39 Kargil heroes.
- 7 Delhi Police claims to have unearthed a multi-crore cricket betting and match-fixing racket involving five South African cricketers including the Captain, Hansie Cronje.
- 11 An indigenously developed missile *Dhanush* with a strike range of 150 km is test-fired from a Naval carrier close to the Orissa coast.
- 13 Union Cabinet decides to accord international status to six domestic airports at Goa, Hyderabad, Ahmadabad, Guwahati, Amritsar and Kochi.
- 17 The three-day Commonwealth Meet of Women's Affairs Ministers begins in New Delhi.
- 18 Prime Minister constitutes a 'Group of Ministers' to review the national security system in the light of recommendations of the Kargil Review Committee.
- 20 The report of Chandrachud Committee on match-fixing is tabled in the Lok Sabha.
- 21 Supreme Court in a judgement rules that a widowed daughter having

no income of her own or no estate of her husband, can claim maintenance from her father or mother.

- 22 Centre announces measures to tackle the extreme drought conditions prevailing in Gujarat, Maharashtra, Rajasthan and Andhra Pradesh.
- 25 Supreme Court allows Karnataka to raise the height of Almatti dam from 509 m to 519.6 m but holds that Andhra Pradesh could use surplus water till a new tribunal decides the share of riparian states.
- Tamil Nadu Governor, Ms Fathima Beevi, commutes death sentence on Nalini, in the Rajiv Gandhi assassination case, to life sentence.
- 26 World Bank approves nearly \$ 750 million loan for several projects in India.
- 27 The RBI Governor announces 'Monetary and Credit Policy' for the year 2000-2001.
- 28 A major fire breaks out in an Army Ordnance depot at Sewar town, 4 km from Bharatpur in Rajasthan which stores more than 2,000 tonnes of ammunition.
- 30 India and Oman sign agreements for the implementation of joint venture fertilizer and refinery projects and to step up cooperation in Information Technology sector.

MAY

- 1 Uzbekistan President Islam Karimov arrives in New Delhi to finalise with India the road-map to combat the menace of terrorism.
- 3 Union Finance Minister Yashwant Sinha proposes certain concessions for investors, venture capital funds, etc., and also announces changes in excise and customs duties.
- India firmly rules out military intervention in Sri Lanka but is ready to render humanitarian assistance.
- 4 As part of continued efforts by the Centre to usher in peace in Jammu & Kashmir, five senior Hurriyat leaders including the JKLF Chairman, Yaseen Malik, are released.
- Lok Sabha passes Finance Bill after Finance Minister refused to yield to any roll-backs on food and fertilizer subsidies.
- 5 Government extends Central assistance in the form of wheat and rice for drought-hit areas of Gujarat, Rajasthan and Andhra Pradesh.
- 9 Lok Sabha approves a Constitution Amendment Bill providing for the devolution of 29 per cent of all taxes to the States based on recommendations of Tenth Finance Commission.
- 10 The rupee records a fall of 37 paise, touching an all-time low of Rs 44.08 per dollar.

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- 11 A nation-wide general strike by major trade unions takes place in protest against the "retrograde" economic, industrial and "anti-poor" policies of the NDA government.
- The population of India crosses the one billion mark.
- Deputy Chairman of Planning Commission, K.C. Pant, announces a 100-member National Population Commission to review, monitor and give directions for implementation of Population Policy.
- India wins the *neem* patent case in the European Patent Office.
- 13 Union Cabinet approves three Bills for creation of new states of Jharkhand, Uttaranchal and Chhattisgarh out of Bihar, Uttar Pradesh and Madhya Pradesh respectively.
- 14 Centre extends ban on LTTE by another two years.
- *Trishul*, a surface-to-air quick-reaction missile is testfired successfully from Kochi.
- 15 The Jammu and Kashmir Power Minister, Ghulam Hasan Bhat, and four others are killed in a powerful explosion near Mandipore in Anantnag district.
- 17 Parliament approves Information Technology Bill which gives legal sanction to e-commerce and e-governance.
- 21 The toll in ethnic violence by the banned National Liberation Front guerrillas rises to 45 in West Tripura.
- 24 Noted lyricist Majrooh Sultanpuri passes away. He was 78.
- 26 The Cabinet Committee on Disinvestment decides to disinvest 60 per cent of Air India's equity.
- 27 Prime Minister effects a minor expansion and reshuffle of his Ministry by inducting three new ministers, Nitish Kumar of Samata Party and Arjun Sethi and B.K. Tripathy of Biju Janata Dal.
- 28 President K.R. Narayanan begins a six-day State visit to China.

JUNE

- 2 Delhi becomes second State after Rajasthan to give OBC status to Jats.
- 9 World Bank approves a \$ 516 million loan for the Rs 54,000 crore National Highway Development Project connecting the four corners of the country.
- Noor Mohammed, a former Olympian and veteran football player, passes away at the age of 80.
- 10 Prime Minister approves the "free-telephone bonanza package" announced by Communications Minister for serving employees of Department of Telecom (DOT) and Department of Telecom Services (DTS).

- 11 Congress(l) leader and former Union Minister, Rajesh Pilot dies in a road accident.
- 12 Government allows 100 per cent foreign direct investment in power, refining and e-commerce sectors through the automatic route.
- The Group of Ministers approves the Communications Bill 2000 "in principle". The Bill seeks to bring about convergence in information, communication and entertainment sectors by establishing an independent Communications Commission of India.
- 13 Pakistan offers India a strategic restraint regime in both nuclear and conventional fields on a "reciprocal basis".
- 14 Babu Parmanand is the new Governor of Haryana. M.M. Jacob gets a fresh term in office as Governor of Meghalaya.
- 16 India again test-fires successfully *Prithvi*, the medium range surface-to-surface missile, from the Interim Test Range at Chandipur.
- 17 Lt Gen K.M. Seth succeeds Siddeshwar Prasad as Governor of Tripura..
- Air Marshal Vinod Patney is appointed Vice-Chief of Air Staff.
- 19 President gives assent to Information Technology Bill, 2000 and Constitution (81st Amendment) Bill, 2000.
- 20 Centre approves new group insurance scheme, *Janashree Bima Yojana* for people below the poverty-line.
- 21 Archbishop of Delhi, Alan de Lastic, dies in a car accident in Poland.
- 24 Union Cabinet approves Rs 89.85 crore to upgrade computer facilities at the Indian Institutes of Technology.
- 25 Union Communications Minister announces bifurcation of the Department of Telecom Services (DTS) into Département of Telecom Operations (DTO) and DTS.
- 26 Jammu and Kashmir Legislative Assembly adopts a resolution accepting report of the State Autonomy Committee recommending greater autonomy to the state.
- 27 India and Russia agree to upgrade their military and technical cooperation and set up a joint commission at the Defence Ministry level.
- 28 India and EU sign a 32 million EURO pact for a civil aviation project on the sidelines of the first EU-India summit at Lisbon.
- 29 UNDP's 'Human Development Report (HDR) - 2000' ranks India 128th among 174 countries in the Human Development Index.

JULY

- 4 Union Cabinet rejects the Jammu and Kashmir Assembly autonomy resolution seeking restoration of the pre-1953 status to the State.

- Prime Minister inaugurates the Rs 340 crore TIDEL Park set up in Chennai to host international players in software and IT industries.
- 5 Indigenously-built multi-target surface-to-air missile *Akash* is successfully test-fired from the Interim Test Range at Chandipur-on-sea.
- Ten royal Bengal tigers including seven white tigers die in the Nandankanan Zoological Park in Orissa.
- 6 47th National Film Festival Awards-2000 are announced. Mohanlal bags best actor award for the film *Vaanaprastham*.
- 7 Government decides to include Hepatitis B vaccine in the National Immunization Programme.
- Indians and Nepalese will be required to carry identification cards to fly into each other's territories starting 1 October 2000.
- 10 Australian Prime Minister John Howard arrives in New Delhi on a two-day official visit.
- 11 Litterateur Amrita Pritam is honoured with *Shatabdi Samman*, the highest award for Punjabi literature.
- 14 Karnataka agrees to release six thousand million cubic feet of Cauvery water to Tamil Nadu's Mettur reservoir in accordance with the Cauvery Water Disputes Tribunal's order.
- 16 Longest total lunar eclipse in 150 years observed over many parts of the country.
- 17 Fifty-seven people including 51 on-board are killed when an Alliance Air Boeing 737 crashes near Patna airport.
- India and China sign the first ever agreement on information technology, investment and joint ventures at Beijing.
- 18 Cabinet gives its nod for amendment of the Cable TV Act, 1995 to regulate the content beamed into India by channels like Zee, Sony and Star.
- 19 India's first missile-firing submarine, *INS Sindushastra*, is commissioned in St. Petersburg in Russia.
- Prime Minister rejects resignations of three Shiv Sena Ministers protesting against the Maharashtra government's move to arrest their leader Bal Thackeray.
- 20 Film actor Dilip Kumar is selected for the eighth Rajiv Gandhi National *Sadbhavana* Award.
- Income Tax, CBI officials raid premises of national cricket icons.
- 21 Government announces a reduction in prices of rice and wheat sold under the Public Distribution System.

- President waives the fine on five pilots of Russian origin and remits with immediate effect their life sentence for involvement in the Purulia arms drop case.
- 24 Pakistan-backed militant outfit Hizbul Mujahideen announces a unilateral three-month-long cease-fire in Jammu and Kashmir and declares its readiness to hold talks with the Centre.
- S. Vijayalakshmi becomes first Woman Grand Master in the country.
- 25 Indian social activists Aruna Roy and Jockin Arputham win the Ramon Magsaysay Award for the year 2000.
- P.T. Usha announces her retirement from international competition.
- 26 Government bans import of Vitamin A individually under the garb of prawn feed.
- 28 Government extends a formal invitation to the militant outfit Hizbul Mujahideen for a dialogue to bring peace in Jammu and Kashmir.
- Doordarshan enters into agreement with CNN for supplementing DD's international coverage.
- Government announces agriculture policy aimed at over 4 per cent growth rate per annum by 2005 as compared to the current 1.5 per cent.
- 29 Indian Army suspends all operations in Jammu and Kashmir against Hizbul Mujahideen.
- Union Cabinet clears a proposal of the railways to set up a separate corporation to utilise its telecom network for creating a nation-wide broadband telecom and multimedia network.
- 30 Pakistan-based militant group Hizbul Mujahideen names three-member team to be present in the proposed negotiations between Indian Government and Kashmiri leadership.
- General Pervez Musharraf suggests signing of an agreement with India for preventing war between the two countries.
- 31 Lok Sabha passes Bill for creation of Chhattisgarh State.
- Kannada film-star Rajkumar and three of his associates are kidnapped by smuggler-gangster Veerappan at Gajanur.
- Centre and National Socialist Council of Nagaland agree to extend ceasefire in Nagaland by one year from 1 August 2000.
- Justice B.M. Lal is appointed Chairman of MRTP Commission.

AUGUST

- 1 Lok Sabha passes by voice vote Bill for the creation of Uttaranchal State.

- Urdu Poet Ali Sardar Jafri passes away.
- At least 21 people, including 11 Amarnath pilgrims, are gunned down near Pahalgam in Jammu & Kashmir.
- Lok Sabha passes by voice vote Bill for creation of Jharkhand State.
- 3 Talks between Central Government and Hizbul Mujahideen commanders begin in Srinagar.
- 5 Independent India's first cricket team's captain Lala Amarnath, 88, passes away in New Delhi.
- Old Delhi Railway Station enters Guinness Book of World Records for acquiring capability to handle the maximum number of trains at any station in the world with largest route relay interlocking system.
- 6 Governments of Tamil Nadu and Karnataka agree to most of the demands made by outlaw Veerappan for the release of Kannada film icon Rajkumar and three other hostages.
- 8 Hizbul Mujahideen calls off its unilateral ceasefire in Kashmir announced on 24 July.
- Former Karnataka Chief Minister S.Nijalingappa, 98, passes away.
- 9 Government announces drastic reduction in the issue price of wheat under the Open Market Sale Scheme by Rs 100-150 per quintal.
- Rajya Sabha okays Chhattisgarh Bill.
- Cabinet approves reconstitution of the Law Commission for a period of three years from 1 September 2000 to 31 August 2003.
- India recommences sugar exports after a gap of three years.
- 10 At least 13 persons, including a *Hindustan Times* photographer, are killed in a car bomb blast in Srinagar.
- India pulls out of the Sahara Cup cricket series in Toronto due to Pakistan's support to cross-border terrorism.
- Rajya Sabha okays Uttaranchal Bill.
- Prime Minister launches new insurance scheme for the weaker sections of society.
- 11 Actor and Dadasaheb Phalke awardee, P. Jairaj, 91, passes away in Mumbai.
- Veteran Gandhian, Dr Usha Mehta, 80, passes away.
- Rajya Sabha okays Jharkhand State Bill.
- Lok Sabha passes bill to impose advertisement and programmes codes on all television channels and make it mandatory for cable operators to show at least three Doordarshan channels.

- 14 President K.R. Narayanan addresses the nation on the eve of Independence day.
 - President honours 22 scholars of Sanskrit, Pali, Arabic and Persian in recognition of their contributions to the growth of these languages.
 - India's boxing heavyweight and *Dronacharya awardee*, Captain Hawa Singh, passes away in Bhiwani, Haryana.
- 15 Prime Minister Atal Bihari Vajpayee addresses the nation from the ramparts of the Red Fort on the occasion of Independence Day.
- 16 Fiji's deposed Prime Minister Mahendra Pal Chaudhary arrives in New Delhi on a 10-day visit to India.
- 18 Palestine leader Yasser Arafat arrives in New Delhi.
- 20 A VSNL earth station, linking the north-east region with Vikram earth station by INTELSAT is inaugurated in Guwahati.
 - BCCI approves a code of conduct for players and officials under which cricketers found involved in betting and match-fixing could be banned for life.
 - Dilip Kumar is honoured with Rajiv Gandhi National *Sadbhavana* Award in New Delhi.
- 21 Parliament approves Bill to bring about uniformity in cable television network operations and to prevent telecast of programmes depicting vulgarity and obscenity.
- 23 Union Power Minister P.R. Kumaramangalam passes away in New Delhi.
 - Health Ministry announces target for elimination of leprosy from the country by 2003.
 - Government plans to launch round-the-clock FM news channels in 40 cities across the country over the next one year.
- 24 Musician Kalyanji Shah, 72, passes away in Mumbai.
 - Addressing a meeting on India-Japan global partnership in New Delhi, Japanese Prime Minister announces a \$15 billion package to be spent in Asia over the next five years to promote infotech in developing countries.
- 25 India's short range surface-to-air missile with multi-purpose utility - *Trishul* - is successfully test-fired .
- 28 Telecom Regulatory Authority of India announces reductions in international and national long-distance call charges effective from 1 October this year till March 2002.
 - Shotputter Shakti Singh and disc thrower Neelam J Singh bag gold

medals for India on the inaugural day of the 13th Asian Track-and-Field Championship in Jakarta.

- 29 Government announces Minimum Support Price for all crops for the 2000-2001 *Kharif* season.
- 30 Prime Minister announces a new package for small-scale industries sector.
- Justice B.P. Jeevan Reddy is reappointed Chairman of the 16th Law Commission.
- 31 The Eleventh Finance Commission submits its second report to the President.
- Government decides to corporatise the Department of Telecom Services (DTS) from 1 October.
- Cabinet approves IT revamp plan.
- Union Cabinet decides to freeze the number of seats in the Lok Sabha and State Assemblies till the year 2026.
- Department of Telecom Operations simplifies the procedure for the allotment of STD/ISD/Public Call Offices to cut down delays.

SEPTEMBER

- 1 Indian Airlines introduces new fares in economy class on certain sectors with effect from 2 September.
- 4 Cabinet approves a plan for restructuring of Chennai, Kochi, Bongaigaon and Numaligarh refineries.
- Cabinet clears the continuation of price preference scheme to public sector units till March 2002.
- Government clears the modified revival package for all viable National Textile Corporation mills and Voluntary Retirement Scheme package for its employees.
- 5 Film Director Hrishikesh Mukherjee is chosen for Dadasaheb Phalke Award for 1999.
- President K.R. Narayanan gives national awards to 284 teachers in New Delhi.
- Government decides to fix the quantitative ceiling for export of wheat at two million tonnes during the licensing year 2000-2001 and to permit export of wheat.
- 6 Cabinet Committee on Economic Affairs decides to end Videsh Sanchar Nigam Limited monopoly in international voice telephony on 1 April 2002, two years ahead of the schedule.
- President gives assent to the Cable Television Networks (Regulation) Amendment Bill 2000.

- 7 Prime Minister arrives in New York for the Millennium Summit.
- Centre doubles the rate of excise duty on manufactured *beedis*.
- Election Commission derecognises *Lok Shakti* as a State party.
- 8 Prime Minister Atal Bihari Vajpayee addresses UN Millennium Summit.
- Industry and Commerce Minister Murasoli Maran clears 76 foreign investment proposals worth Rs 2,416 crore.
- World Bank approves a loan of \$ 381 million to India for Gujarat State Highway.
- Centre modifies the amended Cable Television Networks (Regulation) Rules 1994, barring cable operators from showing feature films or other programmes without valid telecast rights.
- India imposes anti-dumping duty on import of chemical aniline from United States and Japan.
- 9 Film director Buddhadeb Dasgupta wins the special director's award for his film *The Wrestlers* at the Venice film festival.
- 11 A 29-member Non-Resident Indian (NRI) advisory committee on telecom is set up.
- 12 Kapil Dev quits as coach of the Indian cricket team.
- Russia, India and Iran sign an inter-governmental agreement on north-south transport corridor to facilitate faster and cheaper movement of goods from Asia to Europe.
- Finance Minister Yashwant Sinha is selected Chairman of the World Bank/International Monetary Fund Development Committee.
- India moves to fourth place in the world in purchasing power parity (PPP) behind USA, China and Japan.
- 13 Addressing an Indo-American business meet, Prime Minister Atal Bihari Vajpayee sets a target of \$5 billion for US investment flows next year. He also announces creation of a 'Strategic Management Group' in his office to facilitate large projects.
- Microsoft Chief Bill Gates arrives in New Delhi.
- 14 Microsoft Corporation to invest \$50 million over the next three years in its India-based software development centres.
- Prime Minister Atal Bihari Vajpayee addresses the joint session of US Congress.
- Foreign Investment Promotion Board clears 28 proposals worth Rs 161 crore.
- Government lifts ban on sale of non-iodised salt with effect from 30 September.

- 15 India, US sign five commercial deals worth \$6 billion for projects in power, e-commerce and banking sectors during the visit of the Prime Minister Atal Bihari Vajpayee.
- 17 Former Governor of West Bengal, Punjab and Karnataka Dharma Vira, 93, passes away in New Delhi.
- 19 Weighlifter Karnam Malleswari wins bronze medal in the millennium's first Olympic Games at Sydney.
- Surface-to-air missile *Akash* is successfully test-fired from Interim Test Range at Chandipur-on-sea.
- Prime Minister Atal Bihari Vajpayee returns after a two-week visit to the United States.
- 20 India and Russia agree to identify areas to promote strategic partnership in information technology sector.
- 21 Government slashes STD tariff up to 33 per cent from 1 October.
- 25 Government announces 10 per cent cut in non-plan expenditure and fuel expenses.
- 26 India's short-range surface-to-air missile is successfully test fired twice from Interim Test Range at Chandipur-on-sea near Bhubaneswar.
- 27 Centre decides to increase the number of *Padma* awards from 60 to 100 from next year.
- 28 India and France sign an MoU to promote closer cooperation and exchange of information pertaining to the IT sector.
- South African Archbishop Emeritus, Desmond Tutu and Bhaskar Hirji Save are chosen for Jamnalal Bajal awards for the year 2000.
- World's highest observatory is commissioned in Ladakh.
- 29 A special court convicts the former Prime Minister, P.V. Narasimha Rao and his Cabinet colleague Buta Singh, in the 'Jharkhand Mukti Morcha case' on charges of bribing Members of Parliament to buy votes to save the minority Congress(I) government in the confidence motion in 1991.
- Cabinet Committee approves appointment of T.R. Prasad as Cabinet Secretary.
- Government increases prices of LPG, petrol, diesel and kerosene with immediate effect.
- About \$20 billion foreign direct investment is expected to come into India after Prime Minister's visit to the US.
- 30 Gen. S. Padmanabhan takes over as the new Chief of Army Staff.
- Prime Minister Vajpayee expands his Cabinet with two new Cabinet

Ministers and four Ministers of State. The strength of his Cabinet goes up to 75.

- The death toll in West Bengal floods shot up to 758.
- Election Commission derecognises the CPI-M as a national party and gives it the status of a regional party in West Bengal, Kerala and Tripura.
- Dr Sisir Kumar Bose, 80, nephew of Netaji Subhas Chandra Bose passes away in Calcutta.

31 General Information

PRESIDENTS OF INDIA

Name	Tenure
Dr Rajendra Prasad (1884-1963)	26 January 1950-13 May 1962
Dr Sarvepalli Radhakrishnan (1888-1975)	13 May 1962-13 May 1967
Dr Zakir Husain (1897-1969)	13 May 1967-3 May 1969
Varahagiri Venkatagiri (1884-1980)	3 May 1969-20 July 1969 (Acting)
Justice Mohammad Hidayatullah (1905-1992) ..	20 July 1969-24 August 1969 Acting)
Varahagiri Venkatagiri (1884-1980)	24 August 1969-24 August 1974
Fakhruddin Ali Ahmed (1905-1977) .	24 August 1974-11 February 1977
B.D. Jatti (b-1913).....	11 February 1977-25 July 1977 Acting)
Neelam Sanjiva Reddy (1913-1996) ..	25 July 1977-25 July 1982
Giani Zail Singh (1916-1994)	25 July 1982-25 July 1987
R Venkataraman (b-1910)	25 July 1987-25 July 1992
Dr Shanker Dayal Sharma (1918-1999)	25 July 1992-25 July 1997
K R Narayanan (b-1920)	25 July 1997-till date

VICE-PRESIDENTS OF INDIA

Name	Tenure
Dr Sarvepalli Radhakrishnan (1888-1975)	1952-1962
Dr Zakir Husain (1897-1969)	1962-1967
Varahagiri Venkatagiri (1884-1980)	1967-1969
Gopal Swarup Pathak (1896-1982)	1969-1974
B.D. Jatti (b-1913).....	1974-1979
Justice Mohammad Hidayatullah (1905-1992)	1979-1984
R. Venkataraman (b-1910)	1984-1987
Dr Shanker Dayal Sharma (1918-1999)	1987-1992
K.R. Narayanan (b-1920)	1992-1997
Krishan Kant (b-1927)	1997-till date

PRIME MINISTERS OF INDIA

Name	Tenure
Jawaharlal Nehru (1889-1964)	15 August 1947-27 May 1964
Gulzari Lal Nanda (1898-1997)	27 May 1964-9 June 1964 (Acting)
Lal Bahadur Shastri (1904-1966)	9 June 1964-11 January 1966
Gulzari Lal Nanda (1898-1997)	11 January 1966-24 January 1966 (Acting)
Indira Gandhi (1917-1984)	24 January-24 March 1977
Morarji Desai (1896-1995)	24 March 1977-28 July 1979
Charan Singh (1902-1987)	28 July 1979-14 January 1980
Indira Gandhi (1917-1984)	14 January 1980-31 October 1984
Rajiv Gandhi (1944-1991)	31 October 1984-1 December 1989
Vishwanath Pratap Singh (b-1931)	2 December 1989-10 November 1990
Chandra Shekhar (b-1927)	10 November 1990-21 June 1991
P.V. Narasimha Rao (b-1921)	21 June 1991-16 May 1996
Atal Bihari Vajpayee (b-1926)	16 May 1996-01 June 1996
H.D. Deve Gowda (b-1933)	01 June 1996-21 April 1997
I.K. Gujral (b-1933)	21 April 1997-18 March 1998
Atal Bihari Vajpayee (b-1926)	19 March 1998 -13 October 1999
Atal Bihari Vajpayee (b-1926)	13 October 1999 - till date

CHIEF JUSTICES OF INDIA

Name	Tenure
Harilal J. Kania	26 January 1950-6 November 1951
M. Patanjali Sastri	7 November 1951-3 January 1954
Mehar Chand Mahajan	4 January 1954-22 December 1954
B.K. Mukherjea	23 December 1954-31 January 1956
S.R. Das	1 February 1956-30 September 1959
Bhuvaneshwar Prasad Sinha	1 October 1959-31 January 1964
P.B. Gajendragadkar	1 February 1964-15 March 1966
A.K. Sarkar	16 March 1966-29 June 1966
K. Subba Rao	30 June 1966-11 April 1967
K.N. Wanchoo	12 April 1967-24 February 1968
M. Hidayatullah	25 February 1968-16 December 1970
J.C. Shah	17 December 1970-21 January 1971
S.M. Sikri	22 January 1971-25 April 1973
A.N. Ray	26 April 1973-27 January 1977
M.H. Beg	28 January 1977-21 February 1978
Y.V. Chandrachud	22 February 1978-11 July 1985
Prafullachandra Natvarlal Bhagwati	12 July 1985-20 December 1986

General Information

R.S. Pathak	21 December 1986-18 June 1989
E.S. Venkataramiah	19 June 1989-17 December 1989
S. Mukharjee	18 December 1989-25 September 1990
Ranganath Mishra	25 September 1990-24 November 1991
K.N. Singh	25 November 1991-12 December 1991
M.H. Kania	13 December 1991-17 November 1992
L.M. Sharma	18 November 1992-11 February 1993
M.N. Venkatachaliah	12 February 1993-24 October 1994
A.M. Ahmadi	25 October 1994-24 March 1997
J.S. Verma	25 March 1997-17 January 1998
M.M. Punchhi	18 January 1998-9 October 1998
A.S. Anand	10 October 1998 - till date

CHIEF ELECTION COMMISSIONERS OF INDIA

Name	Tenure
Sukumar Sen	21 March 1950-19 December 1958
K.V.K. Sundaram	20 December 1958-30 September 1967
S.P. Sen Verma	1 October 1967-30 September 1972
Dr Nagendra Singh	1 October 1972-6 February 1973
T. Swaminathan	7 February 1973-17 June 1977
S.L. Shakdhar	18 June 1977-17 June 1982
R.K. Trivedi	18 June 1982-31 December 1985
R.V.S. Peri Sastri	1 January 1986-25 November 1990
Smt V.S. Rama Devi	26 November 1990 to 11 December 1990
T.N. Seshan	12 December 1990-11 December 1996
M.S. Gill	12 December 1996 - till date

CIVILIAN AWARDS

<i>Bharat Ratna</i>	The award is given for exceptional service towards the advancement of Art, Literature and Science, and in recognition of public service of the highest order.
<i>Padma Vibhushan</i>	The award is given for exceptional and distinguished service in any field including service rendered by the Government servants.
<i>Padma Bhushan</i>	The award is given for distinguished service of high order in any field including service rendered by the Government servants.
<i>Padma Shri</i>	The award is given for distinguished service in any field including service rendered by the Government servants.

In pursuance of the Supreme Court's Judgement, the Government had constituted a High Level Review Committee chaired by the Vice-President of India, to go into the guidelines for the Padma Awards and certain other aspects. The Review Committee submitted its report in November 1996 and the same has been accepted by the Government. The institution of these awards has been revived since 1997. During the year 2000 *Bharat Ratna* Award has not been conferred. 75 *Padma Awards* (13 *Padma Vibhushan*, 20 *Padma Bhushan* and 42 *Padma Shri*) were announced on 26 January 2000. The awards were conferred by the President in the Investiture Ceremony held on 30 March 2000.

RECIPIENTS OF BHARAT RATNA

Name	Awarded in
Chakravarti Rajagopalachari (1878-1972)	1954
Dr Sarvepalli Radhakrishnan (1888-1975)	1954
Dr Chandrasekhar Venkat Raman (1888-1970)	1954
Dr Bhagwan Das (1869-1958)	1955
Dr Mokshagundam Visvesvaraya (1861-1962)	1955
Jawaharlal Nehru (1889-1964)	1955
Govind Ballabh Pant (1887-1961)	1957
Dr Dhondo Keshave Karve (1858-1962)	1958
Dr Bidhan Chandra Roy (1882-1962)	1961
Purushottam Das Tandon (1882-1962)	1961
Dr Rajendra Prasad (1884-1963)	1962
Dr Zakir Husain (1897-1969)	1963
Dr Pandurang Vaman Kane (1880-1972)	1963
Lal Bahadur Shastri (Posthumous) (1904-1966)	1966
Indira Gandhi (1917-1984)	1971
Varahagiri Venkatagiri (1884-1980)	1975
Kumaraswami Kamraj (Posthumous) (1903-1975)	1976
Mary Teresa Bojaxhu (Mother Teresa) (1910-1997)	1980
Acharya Vinobha Bhave (Posthumous) (1895-1982)	1983
Khan Abdul Ghaffar Khan (1890-1988)	1987
Marudu Gopalan Ramachandran (Posthumous) (1917-1987)	1988
Dr Bhim Rao Ramji Ambedkar (Posthumous) (1891-1956)	1990
Dr Nelson Rolihlahla Mandela (b-1918)	1990
Rajiv Gandhi (Posthumous) (1944-1991)	1991
Sardar Vallabhbhai Patel (Posthumous) (1875-1950)	1991
Moraji Ranchhodji Desai (1896-1995)	1991
Maulana Abul Kalam Azad (Posthumous) (1888-1958)	1992
Jehangir Ratanji Dadabhai Tata (1904-1993)	1992
Satyajit Ray (1922-1992)	1992
Aruna Asaf Ali (Posthumous) (1909-1996)	1997
Gulzari Lal Nanda (Posthumous) (1898-1997)	1997
Dr Avul Pakir Jainulabdeen Abdul Kalam (b-1931)	1997
Madurai Shanmukhavadiyu Subbalakshmi (b-1916)	1998
Chidambaram Subramaniam (1910-2000)	1998
Loknayak Jayaprakash Narayan (Posthumous) (1902-1979)	1999
Professor Amartya Sen (b-1933)	1999
Lokpriya Gopinath Bordoloi (Posthumous) (1890-1950)	1999
Pandit Ravi Shankar (b-1920)	1999

CIVILIAN AWARDS CONFERRED IN THE YEAR 2000

Padma Vibhushan Recipients

: Bhairab Datt Pande
 Pandit Hari Prasad Chaurasia
 Pandit Jasraj Motiram
 Prof Kakkadan Nandanath Raj
 Guru Kelucharan Mohapatra
 Dr Krishen Behari Lall
 Dr Krishnaswamy Kasturirangan
 Maidavolu Narasimham
 Dr Manohar Singh Gill
 Sikander Bakht
 Tarlok Singh

Padma Bhushan Recipients

: Anil Kumar Agarwal
 Prof Braj Basi Lal
 Dharmasthala Veerendra Heggade
 Prof (Dr) Harbans Singh Wasir
 Holenarasipur Yoganarasimham Sharada Prasad
 Swami Kalyan Dev
 Late Karamshi Jethabhai Somaiya's
 Begam Kudsia Aizaz Rasul
 Prof (Dr) Pakkiriswamy Chandra Sekharan
 Prof Pavagada Venkata Indiresan
 Dr Raghunath Anant Mashelkar
 Smt Radha Reddy
 Raja Reddy
 Rajini Kanth
 Ram Narian Agarwal
 Ratan Naval Tata
 Smt Sharan Rani Backliwal
 Late Suryanarayana Srinivasan
 Dr Vasudev Kalkunte Aatre
 Maulana Wahiduddin Khan

Padma Shri Recipients

: 42

SAHITYA AKADEMI AWARDS 1999

Author	Title and Genre	Language
Medini Choudhury	<i>Bipanna Samay</i> (Novel)	Assamese
Nabaneeta Dev Sen	<i>Naba-Nita</i> (Poetry & Fiction)	Bengali
(Late) Kuldeep Singh Jindrahiya	<i>Mangoi Pashakari</i> (Poetry)	Dogri
(Late) A.K. Ramanujan	<i>The Collected Poems of A.K. Ramanujan</i> (Poetry)	English
Niranjan Narhari Bhagat	<i>Gujarati Sahitya: Purvardha-Uttaradha</i> (Literary Criticism)	Gujarati
Vinod Kumar Shukla	<i>Deewar Mein Ek Khirkee Rahtee Thee</i> (Novel)	Hindi
(Late) D.R. Nagaraj	<i>Sahitya Kathana</i> (Literary Criticism)	Kannada
A. Rashid Nazki	<i>Vahrat</i> (Poetry)	Kashmiri
Sharatchandra Sheno	<i>Antarnad</i> (Poetry)	Konkani
Saketanand	<i>Gannayak</i> (Short Stories)	Maithili
C.V. Sreeraman	<i>Sreeramante Kathakal</i> (Short Stories)	Malayalam
S. Lanchenba Meetei	<i>Hi Nangbu Hondeda</i> (Poetry)	Manipuri
Ranganath Pathare	<i>Tamrapat</i> (Novel)	Marathi
Bikram Bir Thapa	<i>Bishaun Shatabdiki Monalisa</i> (Short Stories)	Nepali
Haraprasad Das	<i>Garbhagriha</i> (Poetry)	Oriya
Niranjan Singh Tasneem	<i>Gowache Arth</i> (Novel)	Punjabi
Vasu Acharya	<i>Seer Ro Ghar</i> (Poetry)	Rajasthani
Shriniwas Rath	<i>Tadeva Ganganam Saivadhara</i> (Poetry)	Sanskrit
Vasdev Mohi	<i>Barf Jo Thahiyal</i> (Poetry)	Sindhi
S. Abdul Rahman	<i>Aalapanai</i> (Poetry)	Tamil
Vallampatti Venkata Subbaiah	<i>Katha Silpam</i> (Literary Criticism)	Telugu
Bashir Badr	<i>Aas</i> (Poetry)	Urdu

NOBEL LAUREATES

AMARTYA SEN (b-1933) : Prof. Amartya Sen is the recipient of the Nobel Prize for Economics for the year 1998, becoming the first Asian to have been honoured with the award. The Santiniketan-born economist who is a pioneer in Welfare Economics has to his credit several books and papers on aspects of welfare and development. An economist with a difference, Prof. Sen is a humanist. He has distinguished himself with his outstanding writings on famine, poverty, democracy, gender and social issues. The 'impossibility theorem' suggested earlier by Kenneth Arrow states that it was not possible to aggregate individual choices into a satisfactory choice for society as a whole. Prof. Sen showed mathematically that societies could find ways to alleviate such a poor outcome.

SUBRAMANIAN CHANDRASHEKAR (1910-1995) : The Nobel Prize for Physics in 1983 was awarded to Dr. S. Chandrashekar, an Indian-born astrophysicist. Educated in Presidency College, Madras, Dr. Chandrashekar happened to be the nephew of his Nobel forbear, Sir C.V. Raman. He later migrated to the United States where he authored several books on Astrophysics and Stellar Dynamics. He developed a theory on white dwarf stars which posts a limit of mass of dwarf stars known also as Chandrashekar Limit. His theory explains the final stages of stellar evolution.

MOTHER TERESA (1910-1997) : The Nobel Peace Prize was awarded to Mother Teresa in 1979. Albanian parentage, Agnes Gonxha Bojaxhiu was born at Skopje, now in Yugoslavia. She joined the Irish order of the Sisters of Loretto at Dublin in 1928 and came to Calcutta in 1929 as a missionary, only to find the misery of the abandoned and the destitute. Concern for the poor and the sick prompted her to found a new congregation, Missionaries of Charity. Having become an Indian citizen, Mother Teresa served the cause of dying destitutes, lepers and drug addicts, through *Nirmal Hriday* (meaning Pure Heart), the main centre of her activity. Her selfless service and unique devotion, not only to helpless fellow-Indians but also to the cause of world peace, earned her and India the first Nobel Peace Prize.

HARGOBIND KHORANA (b. 1922) : Hargobind Khorana was awarded the Nobel Prize for Medicine in 1968. Of Indian origin, Dr. Khorana was born in Rajpur, Punjab (now in Pakistan). He took his doctoral degree in Chemistry from Liverpool University and joined the University of Wisconsin as a Faculty Member in 1960. His major breakthrough in the field of Medicine—interpreting the genetic code and analysing its function in protein synthesis—fetched him the Nobel Prize.

CHANDRASHEKAR VENKATARAMAN (1888-1970) : India's first Nobel Prize for Physics was claimed in 1930 by the renowned physicist Sir C.V. Raman. Born at Thiruvanaikkaval near Tiruchirappalli in Tamil Nadu, Raman studied at Presidency College, Madras. Later, he served as Professor of Physics at Calcutta University. Recipient of many honours and awards, including the title of 'Sir', Sir C.V. Raman received the Nobel Prize for an important optics research, in which he discovered that diffused light contained rays of other wavelengths—what is now popularly known as Raman Effect. His theory discovered in 1928 explains the change in the frequency of light passing through a transparent medium.

RABINDRANATH TAGORE (1861-1941) : Rabindranath Tagore was the first Indian ever to receive a Nobel Prize. Popularly known as *Gurudev*, India's Poet Laureate Tagore was born on 7 May 1861 in Calcutta. He was awarded the Nobel Prize for Literature in recognition of his work *Geetanjali*, a collection of poems, in 1913. Tagore wrote many love lyrics. *Geetanjali* and *Sadhana* are among his important works. The poet, dramatist and novelist is also the author of India's National Anthem. In 1901 he founded the famous Santiniketan which later came to be known as Vishwabharati University.

COMMANDERS-IN-CHIEF

Name	Tenure
General Sir Roy Bucher	1 January 1948-14 January 1949
General (now Field Marshal)	
K.M. Cariappa	15 January 1949-14 January 1953
General Maharaj Rajendra Sinhji	15 January 1953-31 March 1955

CHIEFS OF ARMY STAFF

Name	Tenure
General Maharaj Rajendra Sinhji	1 April 1955-14 May 1955
General S.M. Srinagesh	15 May 1955-7 May 1957
General K.S. Thumayya	8 May 1957-7 May 1961
General R.N. Thapar	8 May 1961-19 November 1962
General J.N. Choudhuri	20 November 1962-7 June 1966
General P.P. Kumaramangalam	8 June 1966-7 June 1969
General S.H.F.J. Manekshaw	8 June 1969-31 December 1972
Field Marshal S.H.F.J. Manekshaw	1 January 1973-14 January 1973

General G.G. Bewoor	15 January 1973-31 May 1975
General T.N. Raina	1 June 1975-31 May 1978
General O.P. Malhotra	1 June 1978-31 May 1981
General K.V. Krishna Rao	1 June 1981-31 July 1983
General A.S. Vaidya	1 August 1983-31 January 1986
General K. Sunderji	1 February 1986-30 April 1988
General V.N. Sharma	1 May 1988-30 June 1990
General S.F. Rodrigues	1 July 1990-30 June 1993
General B.C. Joshi	1 July 1993-18 November 1994
General S. Roychowdhury	22 November 1994-30 September 1997
General V.P. Malik	1 October 1997-30 September 2000
General S. Padmanabhan	1 October 2000 - till date

CHIEFS OF NAVAL STAFF

Name	Tenure
Vice Admiral R.D. Katari	22 April 1958-4 June 1962
Vice Admiral B.S. Soman	5 June 1962-3 March 1966
Admiral A.K. Chatterjee	4 March 1966-27 February 1970
Admiral S.M. Nanda	1 March 1970-28 February 1973
Admiral S.N. Kohli	1 March 1973-28 February 1976
Admiral J.L. Cursetji	1 March 1976-28 February 1979
Admiral R.L. Pereira	1 March 1979-28 February 1982
Admiral O.S. Dawson	1 March 1982-30 November 1984
Admiral R.H. Tahiliani	1 December 1984-30 November 1987
Admiral J.G. Nadkarni	1 December 1987-30 November 1990
Admiral Ramdas	1 December 1990-30 September 1993
Admiral V.S. Shekhawat	1 October 1993-30 September 1996
Admiral Vishnu Bhagwat	1 October 1996-30 December 1998
Admiral Sushil Kumar	30 December 1998 - till date

CHIEFS OF AIR STAFF

Name	Tenure
Air Marshal Sir Thomas Elmhirst	15 August 1947-21 February 1950
Air Marshal Sir Ronald Lvelaw Chapman	22 February 1950-9 December 1951
Air Marshal Sir Gerald Gibbs	10 December 1951-31 March 1954
Air Marshal S. Mukherjee	1 April 1954-8 November 1960
Air Marshal A.M. Engineer	1 December 1960-31 July 1964
Air Chief Marshal Arjan Singh	1 August 1964-15 July 1969
Air Chief Marshal P.C. Lal	16 July 1969-15 January 1973
Air Chief Marshal O.P. Mehra	16 January 1973-31 January 1976
Air Chief Marshal H. Moolgavkar	1 February 1976-31 August 1978

Air Chief Marshal I.H. Latif	1 December 1978-31 August 1981
Air Chief Marshal Dilbagh Singh	1 September 1981-3 September 1984
Air Chief Marshal L.M. Katre	4 September 1984-1 July 1985
Air Chief Marshal D.A. La Fontaine	3 July 1985-31 July 1988
Air Chief Marshal S.K. Mehra	1 August 1988-31 July 1991
Air Chief Marshal N.C. Suri	1 August 1991-31 July 1993
Air Chief Marshal S.K. Kaul	1 August 1993-31 December 1995
Air Chief Marshal S.K. Sareen	31 December 1995-31 December 1998
Air Chief Marshal A.Y. Tipnis	1 January 1999 - till date

WINNERS OF PARAM VIR CHAKRA

Major Somnath Sharma, Kumaon Regiment
Posthumous-November 1947 (Kashmir Operations 1947-48)

2nd Lt. R.R. Rane, Corps of Engineers
April 1948 (Kashmir Operations 1947-48)

Company Havildar Major Piru Singh, Rajputana Rifles
Posthumous-July 1948 (Kashmir Operations 1947-48)

L/NK Karam Singh, Sikh Regiment
October 1948 (Kashmir Operations 1947-48)

Naik Jadunath Singh, Rajput Regiment
Posthumous-December 1948 (Kashmir Operations 1947-48)

Captain Gurbachan Singh Salaria, Gorkha Rifles
Posthumous-December 1961 (Congo)

Major Dhan Singh Thapa, Gorkha Rifles
October 1962 (Ladakh)

Subedar Joginder Singh, Sikh Regiment
Posthumous-October 1962 (NEFA)

Major Shaitan Singh, Kumaon Regiment
Posthumous-November 1962 (Ladakh)

Comb. Abdul Hamid, Grenadiers
Posthumous-September 1965 (Operation against Pakistan)

Lt. Col. A.B. Tarapore, Poona Horse
Posthumous-September 1965 (Operation against Pakistan)

Flg. Officer Nirmal Jit Singh Sekhon, Flg. Pilot
Posthumous-December 1971 (Indo-Pakistan conflict)

Major Hoshiar Singh, Grenadiers
December 1971 (Indo-Pakistan conflict)

2/Lt. Arun Khetarpal, 17 Poona Horse
Posthumous-December 1971 (Indo-Pakistan conflict)

L/NK Albert Ekka, Brigade of Guards
Posthumous-December 1971 (Indo-Pakistan conflict)

Naib Subedar Bana Singh, J & K Light Infantry
June 1987 (Operations in Siachen Glacier)

Major Ramaswamy Parameswaran, Mahar Regiment,
Posthumous-November 1987 (IPKF Operations in Sri Lanka)

Capt Vikram Batra, 13 JAK Rif
Posthumous-June 1999 (OP Vijay in Kargil)

Lt Manoj Kumar Pandey, 1/11 GR
Posthumous-June 1999 (OP Vijay in Kargil)

Rifleman Sanjay Kumar, 13 JAK Rif
June 1999 (OP Vijay in Kargil)

Gdr Yogender Singh Yadav, 18 GDRS
June 1999 (OP Vijay in Kargil)

GALLANTRY AWARDS

The following Gallantry Awards were announced on the Independence Day 1999 :

<i>Kirti Chakra</i>	. . . 06 (06 Posthumous)
<i>Vir Chakra</i>	. . . 02 (01 Posthumous)
<i>Shaurya Chakra</i>	. . . 26 (14 Posthumous)
<i>Bar to Sena Medal (G)</i>	. . . 02
<i>Sena Medal (G)</i>	. . . 141 (44 Posthumous)
<i>Nau Sena Medal (G)</i>	. . . 03
<i>Vayu Sena-Medal (G)</i>	. . . 02

In addition, the following gallantry and distinguished service awards were also announced on the Independence Day 1999 for Operation Vijay :

<i>Param Vir Chakra</i>	. . . 04 (02 Posthumous)
<i>Maha Vir Chakra</i>	. . . 09 (06 Posthumous)
<i>Vir Chakra</i>	. . . 55 (31 Posthumous)
<i>Sarvottam Yuddh Seva Medal</i>	. . . 01
<i>Uttam Yuddh Seva Medal</i>	. . . 07
<i>Yuddh Seva Medal</i>	. . . 08
<i>Bar to Sena Medal (G)</i>	. . . 01
<i>Sena Medal (G)</i>	. . . 01
<i>Vayu Sena Medal (G)</i>	. . . 24 (05 Posthumous)
<i>Mention in the Despatches</i>	73

The following gallantry and distinguished services awards were announced on the Republic Day 2000 :

	Annual Awards	Operation Vijay
<i>Ashok Chakra</i>	01	-
<i>Mahavir Chakra</i>	-	01
<i>Kirti Chakra</i>	04 (03 Posthumous)	-
<i>Vir Chakra</i>	01	17 (04 Posthumous)
<i>Shaurya Chakra</i>	19 (08 Posthumous)	-
<i>Sarvottam Yuddh Seva Medal</i>	-	01

Param Vishisht Seva Medal	24	-
Uttam Yuddh Seva Medal	01	01
Bar to Ati Vishisht Seva Medal	02	-
Ati Vishisht Seva Medal	45	-
Yuddh Seva Medal	05	13
Bar to Vishisht Seva Medal	02	-
Vishisht Seva Medal	88 (01 Posthumous)	-
Bar to Sena Medal(G)	01	-
Sena Medal/Nau Sena Medal/		
Vayu Sena Medal(G)	119 (38 Posthumous)	106 (48 Posthumous)
Sena Medal (D)	18 (01 Posthumous)	16
Nau Sena Medal	08	-
Bar to Vayu Sena Medal	01	-
Vayu Sena Medal	13	-
Mention in the Despatches	69 (01 Posthumous)	128 (43 Posthumous)

NATIONAL HIGHWAYS AND THEIR LENGTHS

S. No.	National Highway No.	Length in Km. (prov.)	Starting Station	Terminal Station
1	2	3	4	5
1	1	456	Delhi	Pakistan Border (near Amritsar)
2	1A	663	Jalandhar	Uri
3	1B	189 (107+82)	Batote	Synthanpass
4	1C	15	Domel	Katra
5	2	1490	Delhi	Calcutta
6	3	1161	Agra	Mumbai
7	4	1235	Chennai	Thane (Mumbai)
8	4A	153	Belgaum	Panaji
9	4B	27	Panval-Uran (near Nhava-Sheva Port)	Kalamboli-Palaspe
10	5	1533	Chennai	Jharpokharia Junction with NH6 Orissa
11	5A	77	Haridaspur	Paradeep
12	6	1949	Calcutta	Hajira
13	7	2369	Varanasi	Kanyakumari
14	7A	51	Palayankottai	Tuticorin
15	8	1428	Delhi	Mumbai
16	8A	473	Ahmadabad	Mandvi
17	8B	206	Porbandar	Bamanbore
18	8C	46	Chiloda	Sarkhej
19	8D	127	Jetpur	Somnath
20	9	841	Pune	Machilipatnam
21	10	403	Delhi	Pakistan border (near Fazilka)
22	11	582	Agra	Bikaner
23	11A	64	Manoharpur	Dausa
24	12	890	Jabalpur	Jaipur

26	13	691	Sholapur	Mangalore
27	14	450	Beawar	Radhanpur
28	15	1526	Pathankot	Samakhiali
29	16	460	Nizamabad	Jagadulpur
30	17	1269	Panvel	Edapally (near Cochin)
31	17A	19	Cortalim	Marmagao
32	17B	40	Panda	Vasco
33	18	369	Chittoor	Kurnool
34	19	240	Ghazipur (on NHNo29)	Near Patna
35	20	220	Pathankot	Mandi
36	21	323	Chandigarh	Manali
37	21A	65	Pinjore	Swarghat
38	22	459	Ambala	Shipkila
39	23	459	Chas	Nuatta (near Talcher)
40	24	438	Delhi	Lucknow
41	24A	17	Bakshi-Ka-Talab	NH 28 (Chenhath)
42	25	319	Lucknow	Shivpuri
43	25A	31	NH 25 (km 19)	Bakshi-Ka-Talab
44	26	396	Jhanshi	Lakhnadon
45	27	93	Allahabad	Mangawan
46	28	570	Lucknow	Barauni
47	28A	68	Pipra Kothi	Raxaul (Nepal border)
48	29	196	Varanasi	Gorakhpur
49	30	230	Mohana	Bakhtiyarpur
50	30A	65	Phatuha	Barh
51	31	1125	Barhi	Guwahati
52	31A	92	Sivok	Gangtok
53	31B	19	North Salmara	Jogighopa
54	31C	235	Near Gulgala	Junction with NH.31 near Bijnr
55	32	179	Gobindpur	Jamshedpur
56	33	352	Barhi	Baharagora
57	34	443	Calcutta	Dalkola
58	35	61	Barasat	Bangaon (Bangladesh Border)
59	36	170	Nowgong	Dimapur
60	37	680	Panchratna (near Goalpara)	Saikhoaghat
61	37A	23	Kuarital	Near Tezpur
62	38	54	Makum	Lekhapani
63	39	436	Numaligarh	Myanmar border (near Moreh)
64	40	216	Jorbat	Jowai
65	41	51	Kolaghat	Haldua
66	42	261	Cuttack	Sambalpur
67	43	551	Raipur	Natavalasa
68	44	630	Shillong	Sabroom
69	44A	230	Aizawl	Manu
70	45	387	Chennai	Dindigul
71	45A	190	Villupuram	Nagapattinam
72	46	257	Trichy	Tuticorin
73	47	132	Krishnagin	Raipur
74	47A	640	Salem	Kanvakumari
75	48	6	Willingdon Island	Cochin Bypass NH 47
76	48	328	Nelamangala	Mangalore
77	49	440	(near Bangalore)	
78			Madurai	Dhanshkodi-Extension of NH 49 beyond
79			Cochin	Madurai to Cochin 280 km
80	50	192	Nasik	Pune
81	51	149	Patkan (on NH.37)	Dalu

79	52	850	Baihata Charali (On NH.31)	Junction on with NH.37 (near Saikhoaghat)
80	52A	57	Bander Dewa (on NH52)	Cohpur
81	52B	31	Kulajan	Dibrugarh
82	53	320	Near Badarpur (on NH.44)	Near Imphal (on NH.39)
83	54	850	Daboka	Tuipang
84	54A	9	Theriat	Lunglei
85	54B	27	Venus Saddle	Sahia
86	55	77	Siliguri	Darjeeling
87	56	285	Lucknow	Varanasi
88	56A	13	NH.28 (Chenhat)	NH.56 (km 16)
89	56B	19	NH.56 (km 16)	NH.25 (km 19)
90	57	310	Muzaffarpur	Purnea
91	NE-I	93	Ahmadabad	Vadodara
92	58	527	Ghaziabad	Mana
93	59	350	Ahmadabad	Indore
94	60	305	Balasore	Asansol
95	61	240	Kohima	Jhanji
96	62	195	Damra	Dalu
97	63	432	Ankola	Gooty
98	64	261	Chandigarh	Dabwali
99	65	690	Ambala	Pali
100	66	244	Pondy	Krishnagiri
101	67	357	Nagapattinam	Coimbatore
102	68	134	Ulundrupet	Salem
103	69	350	Nagpur	Obaidullaganj
104	70	170	Jalandhar	Mandi
105	71	307	Jalandhar	Bawal
106	71A	72	Rohtak	Panipat
107	72	200	Ambala	Hardwar
108	73	188	Roorkee	Ambala
109	74	300	Hardwar	Bareilly
110	75	460	Gwalior	Rewa
111	76	1007	Pindwara	Allahabad
112	77	142	Hajipur	Sonabansa
113	78	559	Katni	Gumla
114	79	500	Ajmer	Ghat Bilod (Indore)
115	80	310	Mokamah	Farakka
116	150	700	Aizawl	Kohima
117	200	740	Raipur	Chandikhol
118	201	310	Bongumma	Bargarh
119	202	280	Hyderabad	Bhapatipatnam
120	203	59	Bhubaneswar	Puri
121	204	126	Rajnagiri	Kohlapur
122	205	442	Ananthapur	Chennai
123	206	363	Tumkur	Honnava
124	207	155	Hosur	Nelamangala
125	208	195	Kollam	Tirumanglam (Madurai)
126	209	456	Dindigul	Bangalore
127	210	160	Trichy	Ramanathapuram
128	211	400	Solapur	Dhule
129	81	100	Kora	Malda
130	82	130	Gaya	Mokaweh
131	83	130	Patna	Dobhi

132	84	60	Arrah	Buxar
133	85	95	Chapra	Gopalganj
134	86	360	Kanpur	Sagar
135	87	83	Rampur	Nainital
136	88	115	Simla	Mataur
137	89	300	Ajmer	Bikaner
138	212	250	Kozhikode	Kollegal
139	213	130	Palghat	Kozhikode
140	214	270	Kathipudi	Pamarru
141	215	348	Panikoli	Rajamunda
142	152	40	Patacharkuchi	Bhutan Border
143	151	14	Karimganj	Bangladesh Border

IMPORTANT TRAINS

Train No. and Name	Pairs of stations between which it runs
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SHATABDI EXPRESS

2001/2002	New Delhi-Bhopal
2003/2004	New Delhi-Lucknow
2005/2006	New Delhi-Kalka
2007/2008	Chennai-Mysore (6 days a week except Tuesday)
2009/2010	Mumbai Central-Ahmadabad (6 days a week except Friday)
2011/2012	New Delhi-Chandigarh
2013/2014	New Delhi-Amritsar
2015/2016	New Delhi-Ajmer (6 days a week except Sunday)
2017/2018	New Delhi-Dehradun
2019/2020	Howrah-Bokaro Steel City (6 days a week except Sunday)
2021/2022	Howrah-Rourkela (6 days a week except Saturday)
2027/2028	Mumbai CST-Pune
2029/2030	New Delhi - Amritsar (6 days a week)
2031/2032	New Delhi - Amritsar (one day a week on Sunday)

RAJDHANI EXPRESSES

2301/2302	New Delhi-Howrah (via Gaya) (5 days a week)
2305/2306	New Delhi-Howrah (via Patna) (2 days a week)
2309/2310	New Delhi-Patna (Bi-weekly)
2319/2320	New Delhi-Sealdah (via Gaya) (Bi-weekly) (to be introduced)
2421/2422	New Delhi-Howrah-Bhubneswar (Bi-weekly)
2423/2424	New Delhi-Guwahati (Bi-weekly)
2423A/2424A	New Delhi-Dibrugarh Link Rajdhani Express (weekly)
2425/2426	New Delhi-Jammu Tawi (weekly)
2429/2430	Hazrat Nizamuddin-Secunderabad-Bangalore (4 days a week)
2431/2432	Hazrat Nizamuddin-Madgoan-Thiruvananthapuram (Bi-weekly)
2433/2434	Hazrat Nizamuddin - Chennai (Bi-weekly)
2435/2436	New Delhi - Guwahati (Bi-weekly)
2951/2952	New Delhi-Mumbai Central (6 days)
2953/2954	Hazrat Nizamuddin-Mumbai Central August Kranti (6 days)
2957/2958	New Delhi-Ahmadabad (Tri-weekly)

SUPERFAST TRAINS

2101/2102	Kurla-Howrah Super Delux.
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General Information

2103/2104	Kurla-Nagpur Super Delux Exp.
2105/2106	Mumbai - Nagpur Vidarbha Exp.
2123/2124	Mumbai-Pune (Deccan Queen Express)
2133/2134	Lucknow-Mumbai CST (Pushpak Express)
2137/2138	Mumbai CST-Firozpur (Punjab Mail)
2179/2180	Hazrat Nizamuddin-Gwalior (Taj Express)
2141/2142	Kurla - Patna Superfast Exp.
2155/2156	Habibganj - Nizamuddin Exp
2165/2166	Kurla - Varanasi Express
2303/2304	New Delhi-Howrah Poorva Express Via Patna (4 days a week)
2307/2308	Howrah-Jodhpur Express (6 days a week)
2307A/2308A	Howrah-Mera Road-Bikaner (Link Express) (6 days)
2311/2312	Howrah-Delhi-Kalka (Kalka Mail)
2313/2314	Howrah - Jodhpur /Bikaner Exp
2315/2316	Sealdah-Ajmer Exp. (weekly)
2317/2318	Sealdah-Amritsar Exp. (weekly)
2381/2382	New Delhi-Howrah Poorva Express Via Gaya (3 days a week)
2391/2392	New Delhi-Patna (Magadh Express)
2401/2402	New Delhi-Patna (Shramjeevi Express)
2403/2404	Delhi-Jammu Tawi Express (Pooja Express)
2405/2406	Bhusaval - Nizamuddin Gondwana Exp
2407/2408	Hazrat Nizamuddin-Nagpur (Gondwana Express)
2409/2410	Hazrat Nizamuddin-Bilaspur (Gondwana Express)
2411/2412	Hazrat Nizamuddin-Jabalpur (Gondwana Express).
2413/2414	Delhi-Jaipur-Ajmer Express
2415/2416	Indore Nizamuddin Intercity Express
2417/2418	New Delhi-Allahabad (Prayagraj Express)
2419/2420	New Delhi-Lucknow (Gomti Express)
2461/2462	Jodhpur-Delhi (Mandor Express)
2465/2466	Jaipur - Jodhpur Express
2467/2468	Jaipur - Bikaner Express (Intercity)
2471/2472	Jammu Tawi-Mumbai Central (Swaraj Express)
2473/2474	Ahmadabad - New Delhi - Jammu Tawi (Sarvodaya Express)
2475/2476	Jammu Tawi-Rajkot Express
2477/2478	Jamnagar - New Delhi - Jammu Tawi Express
2497/2498	New Delhi-Amritsar (Shan-e-Punjab)
2553/2554	New Delhi-Barauni (Vaishali Express)
2605/2606	Chennai - Truchchi Pallava Exp
2607/2608	Chennai-Bangalore (Lalbagh Express)
2615/2616	New Delhi-Chennai (G.T. Express)
2617/2618	Ernakulam - Nizamuddin - Mangla - Lakshwadeep Exp
2621/2622	New Delhi-Chennai (Tamil Nadu Express)
2625/2626	New Delhi-Trivandrum (Kerala Express)
2627/2628	New Delhi-Bangalore (Karnataka Express)
2639/2640	Chennai-Bangalore (Brindavan Express)
2643/2644	Trivendrum - Nizamuddin Exp
2673/2674	Chennai - Coimbatore Cheran Exp
2675/2676	Chennai-Coimbatore (Kovai Express)
2677/2678	Coimbatore-Bangalore (Intercity Express)
2703/2704	Howrah-Secunderabad (Forlaknuma Express)

6003/6004	Chennai-Howrah Mail
6003/6004	Jamshedpur-Jaipur/Kanyakumari (Humsagar Express) (weekly)
6003/6004	Chennai-Thiruvananthapuram Mail
6003/6004	Hazrat Nizamuddin-Mysore Via Hubli-Dwarapayanti Express (weekly)
6003/6004	Mumbai-CTI-Bangalore (Tatyasaheb Express)
6003/6004	Chennai-Madurai (Pandyan Express)
6003/6004	Chennai-Trichurapuram (Kochi Fast Express)
6003/6004	Hyderabad-Vishakhapatnam (Godavari Express)
6003/6004	Howrah-Mumbai-CTI Mail
6003/6004	Delhi-Hatia (Dwarapayanti Express) (Bi-weekly)
6003/6004	Delhi-Hatia-Gomoh (Dwarapayanti Express) (Bi-weekly)

HEIGHT OF SOME IMPORTANT INDIAN MOUNTAIN PEAKS

Peak	Height in meter above Mean Sea Level	
1. D.	8,611	in Pak-occupied territory
2. Dhaulagiri	8,598	
3. Nanga Parbat	8,126	
4. Gasher-Brook	8,068	in Pak-occupied territory
5. Dhaul Peak	8,047	in Pak-occupied territory
6. Dhaulagiri No. 1	7,885	do
7. Macho Brook E	7,821	
8. Nanda Devi	7,817	
9. Macho Brook W	7,806	in Pak-occupied territory
10. Rakopoti	7,788	do
11. Kamet	7,776	
12. Gaur Kangri	7,672	
13. Gaur Kangri	7,544	in Pak-occupied territory
14. Gaur Kangri	7,422	do
15. Gaur Kangri (North-east Peak)	7,358	
16. Sivalik West	7,156	
17. Nanda	7,135	
18. Pandit	7,128	
19. Kangri	7,090	
20. Chinnar	7,066	

LENGTH OF SOME IMPORTANT INDIAN RIVERS

River	Length (km)
1. Indus	2,900
2. Brahmaputra	2,900
3. Ganga	2,510
4. Godavari	1,450
5. Narmada	1,290
6. Krishna	1,290
7. Mahanadi	890
8. Kaveri.....	760

AMENDMENTS TO THE CONSTITUTION

1. *The Constitution (First Amendment) Act, 1950*—This amendment provided for several new grounds of restrictions to the right to freedom of speech and expression and the right to practise any profession or to carry on any trade or business as contained in Article 19 of the Constitution. These restrictions related to public order, friendly relations with foreign States or incitement to an offence in relation to the right to freedom of speech, and to the prescribing of professional or technical qualifications or the carrying on by the State, etc., of any trade, business, industry or service in relation to the right to carry on any trade or business. The amendment also inserted two new Articles, 31A and 31B and the Ninth Schedule to give protection from challenge to land reform laws.
2. *The Constitution (Second Amendment) Act, 1952*—By this amendment, the scale or representation for election to the Lok Sabha was readjusted.
3. *The Constitution (Third Amendment) Act, 1954*—This amendment substituted entry 33 of List III (Concurrent List) of the Seventh Schedule to make it correspond to Article 369.
4. *The Constitution (Fourth Amendment) Act, 1955*—Article 31 (2) of the Constitution was amended to re-state more precisely the State's power of compulsory acquisition and requisitioning of private property and distinguish it from cases where the operation of regulatory or prohibitory laws of the States results in "deprivation of property". Article 31A of the Constitution was also amended to extend its scope to cover categories of essential welfare legislation like abolition of zamindars, proper planning of urban and rural areas and for effecting a full control over the mineral and oil resources of the country, etc. Six Acts were also included in the Ninth Schedule. Article 305 was also amended to save certain laws providing of State Monopolies.
5. *The Constitution (Fifth Amendment) Act, 1955*—This amendment made a change in Article 3 so as to empower President to specify a time limit for state legislatures to convey their views on the proposed Central laws affecting areas, boundaries, etc., of their states.
6. *The Constitution (Sixth Amendment) Act, 1956*—This amendment made some changes in Articles 269 and 286 relating to taxes on sale and purchase of goods in the course of inter-state trade and commerce. A new entry 92 A was added to the Union List of the Seventh Schedule to the Constitution.
7. *The Constitution (Seventh Amendment) Act, 1956*—This amendment Act purported to give effect to the recommendations of the State Reorganisation Commission and the necessary consequential changes. Broadly, the then existing states and territories were changed to have two-fold classification of states and union territories. The amendment also provided for composition of the House of the People, re-adjustment after every census, provisions regarding the establishment of new High Courts, High Court Judges etc.

General Information

8. *The Constitution (Eighth Amendment) Act, 1960*—Article 334 was amended with a view to extending the period of reservation of seats for Scheduled Castes and Scheduled Tribes and to the Anglo-Indian community by nomination in Parliament and in the State Legislatures for a further period of ten years.
9. *The Constitution (Ninth Amendment) Act, 1960*—The purpose of this amendment is to give effect to the transfer of certain territories to Pakistan in pursuance of the agreement extended into between Governments of India and Pakistan. This amendment was necessitated in view of the Judgement of Supreme Court in *In Re Berubari Union* by which it was held that any agreement to cede a territory to another country could not be implemented by a law made under Article 3 but would only be implemented by an amendment of the Constitution.
10. *The Constitution (Tenth Amendment) Act, 1961*—This Act amended Article 240 and the First Schedule in order to include areas of Dadra and Nagar Haveli as a Union Territory and to provide for its administration under the regulation making powers of President.
11. *The Constitution (Eleventh Amendment) Act, 1961*—The purpose of this amendment was to amend Articles 66 and 71 of the Constitution to provide that the election of President or Vice President could not be challenged on the ground of any vacancy in the appropriate electoral college.
12. *The Constitution (Twelfth Amendment) Act, 1962*—This amendment sought to include Goa, Daman and Diu as a Union Territory and to amend Article 240 for the purpose
13. *The Constitution (Thirteenth Amendment) Act, 1962*—By this amendment, a new Article 371A was added to make special provisions with respect to state of Nagaland in pursuance of an agreement between Government of India and Naga People's Convention.
14. *The Constitution (Fourteenth Amendment) Act, 1962*—By this Act, Pondicherry was included in the First Schedule as a Union Territory, and this Act has also enabled the creation of Legislature by Parliamentary law for Himachal Pradesh, Manipur, Tripura, Goa, Daman and Diu and Pondicherry.
15. *The Constitution (Fifteenth Amendment) Act, 1963*—This amendment provided for increase in the age of retirement of High Court Judge and for the provision of compensatory allowance to judges who are transferred from one High Court to another. The Act also provided for appointment of retired judges to act as judges of High Court. Article 226 was also enlarged to empower High Court to issue direction, orders or writs to any Government authority, etc., if the cause of action for the exercise of such power arose in the territories wherein the High Court exercise jurisdiction notwithstanding that seat of such Government authority is not within those territories. The Act also provided for the exercise of powers of Chairman of the Service Commissions, in their absence, by one of their Members.
16. *The Constitution (Sixteenth Amendment) Act, 1963*—Article 19 was amended by this Act to impose further restriction on the rights to freedom of speech and expression, to assemble peaceably and without arms and to form associations in the interests of sovereignty and integrity of India. The oath of affirmation to be subscribed by candidates seeking election to Parliament and State Legislatures have been amended to include as one of the conditions that they will uphold the sovereignty and integrity of India. The amendments are intended to promote national integration.
17. *The Constitution (Seventeenth Amendment) Act, 1964*—Article 31A was further amended to prohibit the acquisition of land under personal cultivation unless the market value of the land is paid as compensation and the definition of "estate" as contained in that Article had also been enlarged with retrospective effect. The Ninth Schedule had also been amended to include 44 more Acts.
18. *The Constitution (Eighteenth Amendment) Act, 1966*—Article 3 was amended by this Act to specify that the expression "State" will include a union territory also and to make it clear

that the power to form a new state under this Article includes a power to form a new state or union territory by uniting a part of a state or a union territory to another state or union territory.

19. *The Constitution (Nineteenth Amendment) Act, 1966*—Article 324 was amended to effect a consequential change as a result of the decision to abolish Election Tribunals and to hear election petitions by High Courts.

20. *The Constitution (Twentieth Amendment) Act, 1966*—This amendment was necessitated by the decision of the Supreme Courts in *Chandramohan vs. State of Uttar Pradesh* in which certain appointments of District Judges in State of Uttar Pradesh were declared void by Supreme Court. A new Article 233A was added and the appointments made by Governor were validated.

21. *The Constitution (Twenty-first Amendment) Act, 1967*—By this amendment, Sindhi Language was included in the Eighth Schedule.

22. *The Constitution (Twenty-second Amendment) Act, 1969*—This act was enacted to facilitate the formation of a new autonomous state of Meghalaya within state of Assam.

23. *The Constitution (Twenty-third Amendment) Act, 1969*—Article 334 was amended so as to extend the safeguards in respect of reservation of seats in Parliament and State Legislatures for Schedules Castes and Scheduled Tribes as well as for Anglo-Indians for a further period of ten years.

24. *The Constitution (Twenty-fourth Amendment) Act, 1971*—This amendment was passed in the context of a situation that emerged with the verdict in *Golaknath's* case by Supreme Court. Accordingly, this Act amended Article 13 and Article 368 to remove all doubts regarding the power of Parliament to amend the Constitution including the Fundamental Rights.

25. *The Constitution (Twenty-fifth Amendment) Act, 1971*—This amendment further amended Article 31 in the wake of the *Bank Nationalisation* case. The word 'amount' was substituted in place of 'compensation' in the light of the judicial interpretation of the word 'compensation' meaning 'adequate compensation'.

26. *The Constitution (Twenty-sixth Amendment) Act, 1971*—By this amendment, the privy and privileges of the former rulers of Indian states were abolished. This amendment was passed as a result of Supreme Court decision in *Madhav Rao's* case.

27. *The Constitution (Twenty-seventh Amendment) Act, 1971*—This amendment was passed to provide for certain matters necessitated by the reorganisation of north-eastern states. A new Article 239B was inserted which enabled the promulgation of Ordinances by Administrators of certain union territories.

28. *The Constitution (Twenty-eighth Amendment) Act, 1972*—The amendment was enacted to abolish the special privileges of the members of Indian Civil Services in matters of leave, pension and rights as regard to disciplinary matters.

29. *The Constitution (Twenty-ninth Amendment) Act, 1972*—The Ninth Schedule to the Constitution was amended to include therein two Kerala Acts on land reforms.

30. *The Constitution (Thirtieth Amendment) Act, 1972*—The purpose of the amendment was to amend Article 133 in order to do away with the valuation test of Rs 20,000 as fixed therein, and to provide instead for an appeal to Supreme Court in Civil proceedings only on a certificate issued by High Court that the case involves a substantial question of law of general importance and that in opinion of High Court, the question needs to be decided by Supreme Court.

31. *The Constitution (Thirty-first Amendment) Act, 1973*—This Act *inter alia* raises the upper limit for the representation of states in the Lok Sabha from 500 to 525 and reducing the upper limit for the representation of union territories from 25 members to 20.

General Information

32. *The Constitution (Thirty-second Amendment) Act, 1973*—This Act provided the necessary constitutional authority for giving effect to the provision of equal opportunities to different areas of the State of Andhra Pradesh and for the constitution of an Administrative Tribunal with jurisdiction to deal with grievances relating to public services. It also empowered Parliament to legislate for the establishment of a Central university in the State.
33. *The Constitution (Thirty-third Amendment) Act, 1974*—By this amendment, Articles 101 and 190 were amended in order to streamline the procedure for resignation of Members of Parliament and State Legislatures.
34. *The Constitution (Thirty-fourth Amendment) Act, 1974*—By this Act, twenty more land tenure and land reforms laws enacted by various State Legislatures were included in the Ninth Schedule.
35. *The Constitution (Thirty-fifth Amendment) Act, 1974*—By this Act a new Article 2A was added thereby conferring on Sikkim the status of an associate State of Indian Union. Consequent amendments were made to Articles 80 and 81. A new schedule i.e., Tenth Schedule, was added laying down terms and conditions of association of Sikkim with the Union.
36. *The Constitution (Thirty-sixth Amendment) Act, 1975*—This enacted to make Sikkim a full-fledged State of Indian Union and to include it in the First Schedule to the Constitution and to allot to Sikkim one seat each in the Council of States and in the House of the People. Article 2A and the Tenth Schedule inserted by the Constitution (Thirty-fifth Amendment) Act were omitted and Articles 80 and 81 were suitably amended.
37. *The Constitution (Thirty-seventh Amendment) Act, 1975*—By this Act, Union Territory of Arunachal Pradesh was provided with a Legislative Assembly. Article 240 of the Constitution was also amended to provide that as in the case of other union territories with Legislatures, the power of President to make regulations for the Union Territory of Arunachal Pradesh may be exercised only when the assembly is either dissolved or its functions remain suspended.
38. *The Constitution (Thirty-eighth Amendment) Act, 1975*—This Act amended Articles 123, 213 and 352 of the Constitution to provide that the satisfaction of President or Governor contained in these Articles would be called in question in any court of law.
39. *The Constitution (Thirty-ninth Amendment) Act, 1975*—By this Act, disputes relating to the election of President, Vice-President, Prime Minister and Speaker are to be determined by such authority as may be determined by Parliamentary Law. Certain Central enactments were also included in the Ninth Schedule by this Act.
40. *The Constitution (Fortieth Amendment) Act, 1976*—This act provided for vesting in the Union of all mines, minerals and other things of value laying in the ocean within the territorial waters or the continental shelf or the exclusive economic zone of India. It further provided that all other resources of the exclusive economic zone of India shall also vest in the Union. This act also provided that the limits of the territorial waters, the continental shelf, the exclusive economic zone and the maritime zones of India shall be as specified from time by or under any law made by Parliament. Also some more Acts were added to the Ninth Scheme.
41. *The Constitution (Forty-first Amendment) Act, 1976*—By this Act, Article 316 was amended to raise the retirement age of Members of State Public Service Commissions and Joint Public Service Commissions from 60 to 62 years.
42. *The Constitution (Forty-second Amendment) Act, 1976*—This act made a number of important amendments in the Constitution. These amendments were mainly for purpose of giving effect to the recommendations of Swaran Singh Committee.

Some of the important amendments made are for the purpose of spelling out expressly the high ideals of socialism, secularism and the integrity of the nation, to make the Directive Principles more comprehensive and giving them precedence over those Fundamental Rights

which have been allowed to be relied upon to frustrate socio-economic reforms. The amendment Act also inserted a new chapter on the Fundamental Duties of citizens and made special provisions for dealing with anti-national activities, whether by individuals or by associations. The judiciary provisions were also amended by providing for a requirement as to the minimum number of judges for determining question as to the constitutional validity of law and for a special majority of not less than two-third for declaring any law to be constitutionally invalid.

To reduce the mounting arrears in High Courts and to secure the speedy disposal of service matters, revenue matters and certain other matters of special importance in the context of socio-economic development and progress, this amendment Act provided for the creation of Administrative and other tribunals for dealing with such matters while preserving the Jurisdiction of the Supreme Court in regard to such matters under Article 136 of the Constitution. Certain modifications in the writ jurisdiction of High Courts under Article 226 were also made.

43. *The Constitution (Forty-third Amendment) Act, 1977*—This Act inter alia provided for the restoration of the jurisdiction of the Supreme Court and High Courts, curtailed by the enactment of the Constitution (Forty-second Amendment) Act, 1976 and accordingly Articles 32A, 131A, 144A, 226A and 228A included in the Constitution by the said amendment, were omitted by this Act. The Act also provided for the omission of Article 31 which conferred special powers on Parliament to enact certain laws in respect of anti-national activities.

44. *The Constitution (Forty-fourth Amendment) Act, 1978*—The right to property which had been the occasion for more than one amendment of Constitution was omitted as a Fundamental Right and it was made only as a legal right. It was, however, ensured that the removal of the right to property from the list of Fundamental Rights would not affect the right of minorities to establish and administer educational institutions of their choice. Article 352 of the Constitution was amended to provide "armed rebellion" as one of the circumstances for declaration of emergency. Internal disturbance not amounting to armed rebellion would not be a ground for the issuance of a Proclamation. The right to personal liberty as contained in Articles 21 and 22 is further strengthened by the provision that a law for preventive detention cannot authorise, in any case, detention for a longer period than two months unless an Advisory Board has reported that there is sufficient cause for such detention. The additional safeguard has also been provided by the requirements that Chairman of an Advisory Board shall be a serving Judge of the appropriate High Court and that the Board shall be constituted in accordance with the recommendations of the Chief Justice of that High Court.

With a view to avoiding delays, Articles 132 and 134 were amended and a new Article 134A was inserted to provide that a High Court should consider the question of granting a certificate for appeal to Supreme Court immediately after the delivery of the judgement, final order or sentence concerned on the basis of an oral application by a party or, if the High Court deems it so to do, on its own. The other amendments made by the Act are mainly for removing or correcting the distortions which came into the Constitution by reason of the amendment initiated during the period of internal emergency.

45. *The Constitution (Forty-fifth Amendment) Act, 1980*—This was passed to extend safeguards in respect of reservation of seats in Parliament and State Assemblies for Scheduled Castes, Scheduled Tribes as well as for Anglo-Indians for a further period of ten years.

46. *The Constitution (Forty-sixth Amendment) Act, 1982*—Article 269 was amended so that the tax levied on the consignment of goods in the course of inter-state or commerce shall be assigned to the states. This Article was also amended to enable Parliament to formulate by law principle for determining when a consignment of goods takes place in the course of inter-state trade or commerce. A new entry 92B was also inserted in the Union List to enable the levy of tax on the consignment of goods where such consignment takes place in the course of inter-state trade or commerce.

Clause (3) of Article 286 was amended to enable Parliament to specify, by law, restrictions and conditions in regard to the system of levy rates and other incidence of tax on the transfer

of goods involved in the execution of a works contract, on the delivery of goods on hire-purchase or any system of payment of instalments, etc.

Article 366 was also suitably amended to insert a definition of "tax on the sale or purchase of goods" to include transfer for consideration of controlled commodities, transfer of property in goods involved in the execution of a works contract, delivery of goods on hire-purchase or any system of payment by instalments, etc.

47. *The Constitution (Forty-seventh Amendment) Act, 1984*—This amendment is intended to provide for the inclusion of certain land Reforms Acts in the Ninth Schedule to the Constitution with a view to obviating the scope of litigation hampering the implementation process of those Acts.

48. *The Constitution (Forty-eighth Amendment) Act, 1984*—The Proclamation issued by President under Article 356 of the Constitution with respect to the State of Punjab cannot be continued in force for more than one year unless the special conditions mentioned in clause (5) of the said Article are satisfied. As it is felt that the continued force of the said Proclamation is necessary, therefore, the present amendment had been effected so as to make the conditions mentioned in clause (5) of Article 356 inapplicable in the instant case.

49. *The Constitution (Forty-ninth Amendment) Act, 1984*—Tripura Government recommended that the provisions of the Sixth Schedule to the Constitution may be made applicable to tribal areas of that State. The amendment involved in this Act is intended to give a constitutional security to the autonomous District Council functioning in the State.

50. *The Constitution (Fiftieth Amendment) Act, 1984*—by article 33 of the constitution, parliament is empowered to enact laws determining to what extent any of the rights conferred by part iii of the constitution shall, in their application to the members of the armed forces or the forces charged with the maintenance of public order, be restricted or abrogated so as to ensure proper discharge of their duties and maintenance of discipline among them.

It was proposed to amend Article 33 so as to bring within its ambit:

(i) the members of the Force charged with the protection of property belonging to or in the charge or possession of the state; or

(ii) persons employed in any bureau or other organisation established by the state for purposes of intelligence or counter-intelligence; or

(iii) persons employed in or in connection with the telecommunication systems set up for the purposes of any Force, bureau or organisation.

Experience has revealed that the need for ensuring proper discharge of their duties and maintenance of discipline among them is of paramount importance in the national interest.

51. *The Constitution (Fifty-first Amendment) Act, 1984*—Article 330 has been amended by this Act for providing reservation of seats for Scheduled Tribes in Meghalaya, Nagaland, Arunachal Pradesh and Mizoram in Parliament and Article 332 has been amended to provide similar reservation in the Legislative Assemblies of Nagaland and Meghalaya to meet the aspirations of local tribal population.

52. *The Constitution (Fifty-second Amendment) Act, 1985*—It amends the Constitution to provide that a Member of Parliament or a State Legislature who defects or is expelled from the party which set him up as a candidate in the election or if an independent member of the House joins a political party after expiry of six months from the date on which he takes seat in the House shall be disqualified to remain a member of the House. The Act also makes suitable provisions with respect to splits in and merger of political parties.

53. *The Constitution (Fifty-third Amendment) Act, 1986*—This has been enacted to give effect to the Memorandum of Settlement of Mizoram which was signed by Government of India and Mizoram Government with Mizoram National Front on 30 June 1986. For this purpose, a new

Article 371G has been inserted in the Constitution *inter alia* preventing application of any Act of Parliament in Mizoram in respect of religious or social practices of Mizos, Mizos' customary law and procedure, administration of civil and criminal practice involving decisions according to Mizos' customary law and ownership and transfer of land unless a resolution is passed in the Legislative Assembly to that effect. This, however, will not apply to any Central Act already in force in Mizoram before the commencement of this amendment. The new Article also provides that the Legislative Assembly of Mizoram shall consist of not less than 40 members.

54. *The Constitution (Fifty-fourth Amendment) Act, 1986*—This Act increases the salaries of Supreme Court and High Court judges as follows :

Chief Justice of India	Rs 10,000 per month
Judges of Supreme Court	Rs 9,000 per month
Chief Justice of High Court	Rs 9,000 per month
Judges of High Court	Rs 8,000 per month

This Act amended Part 'D' of the Second Schedule to the Constitution to give effect to the above increases in the salaries of judges and to make an enabling provision in Articles 125 and 221 to provide for changes in the salaries of judges in future by Parliament by law.

55. *The Constitution (Fifty-fifth Amendment) Act, 1986*—This Act seeks to give effects to the proposal of Government of India to confer statehood on the Union Territory of Arunachal Pradesh and for this purpose, a new Article 371H has been inserted which, *inter alia*, confers, having regard to the sensitive location of Arunachal Pradesh to vest special responsibility on Governor of the new State of Arunachal Pradesh with respect to law and order in the State and in the discharge of his functions, the Governor shall after consulting the Council of Ministers, exercise his individual judgement, as to the action to be taken and this responsibility shall cease when President so directs. The new Article also provides that the new Legislative Assembly of the new State of Arunachal Pradesh, shall consist of not less than thirty members.

56. *The Constitution (Fifty-sixth Amendment) Act, 1987*—Government of India has proposed to constitute the territories comprised in Goa District of the Union Territory of Goa, Daman and Diu as the State of Goa and the territories comprised in Daman and Diu districts of that Union Territory as a new Union Territory of Daman and Diu. In this context, it was proposed that the Legislative Assembly of the new State of Goa shall consist of 40 members. The existing Legislative Assembly of the Union Territory of Goa, Daman and Diu has 30 elected members and three nominated members. It was intended to make this Assembly with the exclusion of two members representing Daman and Diu districts the provisional Legislative Assembly for the new State of Goa until elections are held on the expiry of the five year terms of the existing Assembly. It was, therefore, decided to provide that the Legislative Assembly of the new State of Goa shall consist of not less than 30 members. The special provision required to be made to give effect to this proposal is carried out by this amendment.

57. *The Constitution (Fifty-seventh amendment) Act, 1987*—The Constitution (Fifty-first Amendment) Act, 1984 was enacted to provide for reservation of seats in the house of the people for scheduled tribes in Nagaland, Meghalaya, Mizoram and Arunachal Pradesh and also for reservation of seats for scheduled tribes in the legislative assemblies of Nagaland and Meghalaya by suitably amending articles 330 and 332. Even though these states are predominantly tribal, the underlying objective of the aforesaid act was to ensure that the members of scheduled tribes in these areas do not fail to secure a minimal representation because of their inability to compete with the advanced sections of the people. The Constitution (fifty-first amendment) act, though formally enforced, could not be fully implemented unless parallel action is taken to determine the seats which are to be reserved for Scheduled tribes in these areas. The number of seats reserved for Schedule Castes and Schedule Tribes in the Legislative Assembly of any State under article 332 of the constitution will have to be determined having regard to the provisions of article 332 (3) of the Constitution. However, in view of the historical background with respect

to the areas comprised in north-eastern states, the circumstances obtaining in these areas in the State of development of Scheduled Tribes and other relevant considerations, it was considered necessary to provide for special arrangements with regard to the reservation for Scheduled Tribes in these areas for a temporary period so as to facilitate easy transition of these areas to the normal arrangements as envisaged in the Constitution. Article 332 of the Constitution was further amended for making a temporary provision, until the re-adjustment of seats on the basis of first census after the year 2000 under article 170 of the Constitution for these states for the determination of the number of seats reserved for Scheduled Tribes. This amendment seeks to provide that if all the seats in the Legislative Assembly of such States in existence on the date of coming into force of this constitution amendment act are held by the members of Scheduled Tribes, all the seats except one shall be reserved for scheduled tribes and in any other case such number of seats as bears to the total number of seats a proportion not less than the number of members belonging to Scheduled Tribes in the existing assembly bears to the total number of seats in the existing assembly. The act achieves these objectives.

58 *The Constitution (Fifty-eighth Amendment) Act, 1987*—There has been general demand for the publication of authoritative text of the Constitution in Hindi. It is imperative to have an authoritative text of the Constitution for facilitating its use in the legal process. Any Hindi version of the Constitution should not only conform to the Hindi translation published by the Constituent Assembly but should be in conformity with the language style and terminology adopted in the authoritative texts of Central Acts in Hindi. The Constitution has been amended to empower President of India to publish under his authority the translation of the Constitution in Hindi signed by the Members of the Constituent Assembly with such modification as may be necessary to bring it in conformity with the language, style and terminology adopted in the authoritative texts of Central Acts in Hindi language. President has also been authorised to publish the translation in Hindi of every amendment of the Constitution made in English.

59 *The Constitution (Fifty-ninth Amendment) Act, 1988*—The Act amends Article 365 (5) of the Constitution so as to facilitate the extension of a Presidential Proclamation issued under clause (1) of Article 356 beyond a period of one year, if necessary upto a period of three years, as permissible under clause (4) of Article 356 with respect to the State of Punjab because of the continued disturbed situation there. The Act also amends Article 352 of the Constitution pertaining to the Proclamation of emergency in its application to the State of Punjab and includes internal disturbance as one of the grounds for making a Proclamation in respect of the State of Punjab only. As a consequence of amendment in Article 352, Articles 358 and 359 in relation to the State of Punjab will be operative only for a period of two years from 30 March 1988, which is the date of commencement of the amendment.

60 *The Constitution (Sixtieth Amendment) Act, 1988*—The Act amends clause (2) of Article 276 of the Constitution so as to increase the ceiling of taxes on professions, trades, callings and employment from Rs 250 per annum to Rs 2,500 per annum. The upward revision of this tax will help state governments in raising additional resources. The proviso to clause (2) has been omitted.

61 *The Constitution (Sixty-first Amendment) Act, 1989*—The Act provides for reducing voting age from 21 to 18 years by amending Article 326 of the Constitution to provide to the unrepresented youth of the country an opportunity to give vent to their feelings and help them become a part of political process.

62 *The Constitution (Sixty-second Amendment) Act, 1989*—Article 334 of the Constitution lays down that the provisions of the Constitution relating to the reservation of seats for the Scheduled Castes and the Scheduled Tribes and the representation of the Anglo-Indian community by nomination in the Lok Sabha and in the Legislative Assemblies of the States shall cease to have effect on the expiry of a period of 40 years from the commencement of the Constitution. Although the Scheduled Castes and the Scheduled Tribes have made considerable progress in the last 40 years, the reasons which weighed with the Constituent Assembly in making provisions with regard to the aforesaid reservation of seats and nomination of members, have not ceased to exist. The Act amends Article 334 of the Constitution to continue

the reservation for the Scheduled Castes and the Scheduled Tribes and the representation of the Anglo-Indians by nomination for a further period of 10 years.

63. *The Constitution (Sixty-third Amendment) Act, 1989*—The Constitution (Fifty-ninth Amendment) Act, 1988 was enacted in march 1988 making certain changes in regard to making a Proclamation of Emergency in Punjab and to the duration of President's rule in State. On reconsideration, the Government decided that the special powers in regard to the Proclamation of Emergency in Punjab as envisaged in the said amendment is no longer required. Accordingly the provision to clause (5) of Article 356 and Article 359A of the Constitution have been omitted.

64. *The Constitution (Sixty-fourth Amendment) Act, 1990*—This Act amends clauses (4) and (5) of Article 356 of the Constitution with a view to facilitate the extension of the proclamation issued under clause (1) of Article 356 of the Constitution on 11 May 1987 upto a total period of three years and six months in relation to the State of Punjab.

65. *The Constitution (Sixty-fifth Amendment) Act, 1990*—Article 338 of the Constitution provides for a Special Officer for the Scheduled Castes and Scheduled Tribes to investigate all matters relating to the safeguards provided for the Scheduled Castes and Scheduled Tribes under the Constitution and to report to the President on their working. The Article has been amended for the constitution of a National Commission for Scheduled Castes and Scheduled Tribes consisting of a Chairperson, Vice Chairperson and five other Members who shall be appointed by the President by warrant under his hand and seal. The amended Article elaborates the duties of the said Commission and covers measures that should be taken by the Union or any state for the effective implementation of the reports presented by the Commission. It also provides that the Commission shall, while investigating any matter or inquiring into any complaint have all the powers of a Civil Court trying a suit and the reports of the said Commission shall be laid before Parliament and the Legislature of the states.

66. *The Constitution (Sixty-sixth Amendment) Act, 1990*—The Act protects 55 State Acts relating to land reforms and ceiling on agricultural land holdings enacted by States of Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal and administration of the Union Territory of Pondicherry, from challenge in courts, by including them in the Ninth Schedule to the Constitution.

67. *The Constitution (Sixty-seventh Amendment) Act, 1990*—The three year period in the case of proclamation issued on 11 May 1987 with respect to the State of Punjab was extended to three years and six months by the Constitution (Sixty-fourth Amendment) Act, 1990. This Act further amends clause (4) of Article 356 so as to further extend the period upto a total period of four years.

68. *The Constitution (Sixty-eighth Amendment) Act, 1991*—The three year period in the case of proclamation issued on 17 May 1987 with respect to the State of Punjab was earlier extended to four years by the Constitution (sixty-seventh Amendment) Act, 1990. This Act further amends clause (4) of Article 356 so as to further extend the period upto a total period of five years.

69. *The Constitution (Sixty-ninth Amendment) Act, 1991*—The Government of India appointed on 24 December 1987 a Committee to go into various issues connected with the administration of Delhi and to recommend measures, inter alia for the streamlining of the administrative set up. After detailed inquiry and examination, it recommended that Delhi should continue to be a union territory and may be provided with a Legislative Assembly and a Council of Ministers responsible to such assembly with appropriate powers to deal with matters of concern to the common man. The Committee also recommended that with a view to ensuring stability and permanence, arrangements should be incorporated in the constitution to give the national capital a special status among the union territories. This act has been passed to give effect to the above recommendations.

70. *The Constitution (Seventieth Amendment) Act, 1992*—While considering the (Seventy-fourth Amendment) Bill, 1991 and the Government of National Capital Territory Bill, 1991 views

were expressed in both the Houses of Parliament in favour of including also the elected members of the legislative assemblies of union territories in the electoral college for the election of the President under Article 54 of the Constitution.

At present Article 54 relating to the election of the President provides for an electoral college consisting of only the elected Members of Parliament as well as the legislative assemblies of the states (not of union territories). Similarly, Article 55 providing for the manner of such election also speaks of legislative assemblies of states.

Accordingly, an Explanation was inserted in Article 54 to provide that reference to 'State' in Article 54 and 55 would include the National Capital Territory of Delhi and the Union Territory of Pondicherry for constituting the electoral college for election of the President. This would enable the elected members of the Legislative Assembly created for the Union Territory of Pondicherry under the provisions of Article 239A and of the proposed Legislative Assembly of the National Capital Territory of Delhi under Article 239AA to be included in the electoral college.

71. *The Constitution (Seventy-first Amendment) Act, 1992*—There have been demands for inclusion of certain languages in the Eighth Schedule to the Constitution. This Act amends the Eighth Schedule to the Constitution to include Konkani, Manipuri and Nepali languages in the Eighth Schedule to the Constitution.

72. *The Constitution (Seventy-second Amendment) Act, 1992*—For restoring peace and harmony in the areas of the State of Tripura where disturbed conditions prevailed, a Memorandum of Settlement was signed by the Government of India with Tripura National Volunteers on 12 August 1988.

In order to implement the said Memorandum, Article 332 of the Constitution has been amended by the Constitution (Seventy-second Amendment) Act, 1992 for making a temporary provision for the determination of the number of seats reserved for the Scheduled Tribes in the State Assembly of Tripura, until the re-adjustment of seats is made on the basis of the first Census after the year 2000 under Article 170 of the Constitution.

73. *The Constitution (Seventy-third Amendment) Act, 1993*—Article 40 of the Constitution which enshrines one of the Directive Principles of State Policy lays down that the State shall take steps to organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government.

In the light of the above, a new Part IX relating to the Panchayats has been inserted in the Constitution to provide for among other things, *Gram Sabha* in a village or group of villages; constitution of *Panchayats* at village and other level or levels; direct elections to all seats in Panchayats at the village and intermediate level, if any and to the offices of Chairpersons of Panchayats at such levels, reservation of seats for the Scheduled Castes and Scheduled Tribes in proportion to their population for membership of Panchayats and office of Chairpersons in Panchayats at each level, reservation of not less than one-third of the seats for women, fixing tenure of five years for Panchayats and holding elections within a period of six months in the event of supersession of any Panchayat.

74. *The Constitution (Seventy-fourth Amendment) Act, 1993*—In many states local bodies have become weak and ineffective on account of a variety of reasons, including the failure to hold regular elections, prolonged supersession and inadequate devolutions of powers and functions. As a result, Urban Local Bodies are not able to perform effectively as vibrant democratic units of self-government.

Having regard to these inadequacies a new part IX-A relating to the Municipalities has been incorporated in the Constitution to provide for among other things, constitution of three types Municipalities, i.e., *Nagar Panchayats* for areas in transition from a rural area to urban area, *Municipal Councils* for smaller urban areas and *Municipal Corporations* for larger urban areas.

75 *The Constitution (Seventy-fifth Amendment) Act, 1994*—The operation of the Rent Control Legislations, as are today in various states, suffers from major weaknesses and has led to various unintended consequences. Some of the deleterious legal consequences include mounting and mending litigation, inability of the courts to provide timely justice, evolution of practices and systems to bypass the operations of rent legislations and steady shrinkage of rental housing market.

The Supreme Court taking note of the precarious state of rent litigation in the country in case of *Prabhakaran Nair and others vs State of Tamil Nadu* (Civil Writ Petition 506 of 1986) and other writs observed that the Supreme Court and the High Courts should be relieved of the heavy burden of rent litigation. Tiers of appeals should be curtailed. Laws should be simple, rational and clear, litigations must come to end quickly.

Therefore, this Act amends Article 323B in Part XIVA of the Constitution so as to give timely relief to the rent litigants by providing for setting up of state-level Rent Tribunals in order to reduce the tiers of appeals and to exclude the jurisdiction of all courts, except that of the Supreme Court, under Article 136 of the Constitution.

76 *The Constitution (Seventy-sixth Amendment) Act, 1994*—The policy of reservation of seats in educational institutions and reservation of appointments or posts in public services for Backward Classes, Scheduled Castes and Scheduled Tribes has had a long history in Tamil Nadu dating back to the year 1921. The extent of reservation has been increased by the State Government from time to time, consistent with the needs of the majority of the people and it has now reached the level of 69 per cent (18 per cent Scheduled Castes, one per cent Scheduled Tribes and 50 per cent Other Backward Classes).

The Supreme Court in *Indira Sawhney and others vs Union of India and others* (AIR, 1993 SC 477) on 16 November 1992 ruled that the total reservations under Article 16(4) should not exceed 50 per cent.

The Tamil Nadu Government enacted a legislation, namely, Tamil Nadu Backward Classes, Scheduled Castes and Scheduled Tribes (Reservation of Seats in Educational Institution and of appointments or posts in the Services under the State) Bill, 1993 and forwarded it to the Government of India for consideration of the President of India in terms of Article 31-C of the Constitution. The Government of India supported the provision of the State legislation by giving the President's assent to the Tamil Nadu Bill. As a corollary to this decision, it was necessary that the Tamil Nadu Act 45 of 1994 was brought within the purview of the Ninth Schedule to the Constitution so that it could get protection under Article 31B of the Constitution with regard to the judicial review.

77 *The Constitution (Seventy-seventh Amendment) Act, 1995*—The Schedule Castes and the scheduled tribes have been enjoying the facility of reservation in promotion since 1955. The Supreme Court in its judgment dated 16 November 1992 in the case of *Indira Sawhney and Others vs Union of India and others*, however, observed that reservation of appointments or posts under Article 16(4) of the Constitution is confined to initial appointment and cannot extend to reservation in the matter of promotion. This ruling of the Supreme Court will adversely affect the interests of the Scheduled Castes and the Scheduled Tribes. Since the representation of the Scheduled Castes and the Scheduled Tribes in services in the States have not reached the required level, it is necessary to continue the existing dispensation of providing reservation in promotion in the case of the Scheduled Castes and the Scheduled Tribes. In view of the commitment of the Government to protect the interests of the Scheduled Castes and the Scheduled Tribes, the Government have decided to continue the existing policy of reservation in promotion for the Scheduled Castes and the Scheduled Tribes. To carry out this, it was necessary to amend Article 16 of the Constitution by inserting a new clause (4A) in the said Article to provide for reservation in promotion for the Scheduled Castes and the Scheduled Tribes.

78 *The Constitution (Seventy-eighth Amendment) Act, 1995*—Article 31B of the Constitution confers on the enactments included in the Ninth Schedule to the Constitution immunity from

legal challenge on the ground that they violate the fundamental rights enshrined in Part III of the Constitution. The Schedule consists of list of laws enacted by various state governments and Central Government which inter alia affect rights and interest in property including land

In the past, whenever, it was found that progressive legislation conceived in the interest of the public was imperilled by litigation, recourse was taken to the Ninth Schedule. Accordingly, several State enactments relating to land reforms and ceiling on agricultural land holdings have already been included in the Ninth Schedule. Since the Government is committed to give importance to land reforms, it was decided to include land reform laws in the Ninth Schedule so that they are not challenged before the courts. The state governments of Bihar, Karnataka, Kerala, Orissa, Rajasthan, Tamil Nadu and West Bengal had suggested the inclusion of some of their Acts relating to land reforms in the Ninth Schedule.

Since the amendment to Acts which are already placed in the Ninth Schedule are not automatically immunised from legal challenge, a number of amending Acts along with a few principal Acts have been included in the Ninth Schedule so as to ensure that implementation of these Acts is not adversely affected by litigation.

79. *The Constitution (Seventy-ninth Amendment) Act, 1999*—By this Act the Government has extended the reservations of seats for the Scheduled Castes and the Scheduled Tribes as well as for the Anglo-Indians in the House of the People and in the Legislative Assemblies of the States for another ten years.

80. *The Constitution (Eightieth Amendment) Act, 2000*—Based on the recommendations of the Tenth Finance Commission, an alternative scheme for sharing taxes between the Union and the States has been enacted by the Constitution (Eightieth Amendment) Act 2000. Under the new scheme of devolution of revenue between Union and the States, 26 per cent out of gross proceeds of Union taxes and duties is to be assigned to the States in lieu of their existing share in the income-tax, excise duties, special excise duties and grants in lieu of tax on railway passenger fares.

81. *The Constitution (Eighty-first Amendment) Act, 2000*—By this amendment the unfilled vacancies of a year which were reserved for the Scheduled Castes and the Scheduled Tribes for being filled up in that year in accordance with any provision for reservations made under Article 16 of the Constitution, shall be considered as a separate class of vacancies to be filled up in any succeeding year or years, and such class of vacancies shall not be considered together with the vacancies of the year in which they were filled up for determining the ceiling of fifty per cent reservation against total number of vacancies of that year.

82. *The Constitution (Eighty-second Amendment) Act, 2000*—The amendment provides that nothing in Article 335 shall prevent the State from making any provision in favour of the members of the Scheduled Castes and the Scheduled Tribes for relaxation in qualifying marks in any examination or lowering the standards of evaluation for reservation in matters of promotion to any class or classes of services or posts in connection with affairs of the Union or of a State.

83. *The Constitution (Eighty-third Amendment) Act, 2000*—The Act amended Article 243M of the Constitution to provide that no reservation in Panchayats need be made in favour of the Scheduled Castes in Arunachal Pradesh wholly inhabited by tribal population.

Appendices

GOVERNMENT OF INDIA

K.R. Narayanan — President
Krishan Kant — Vice-President

CABINET MINISTERS

(As on 14 November 2000)

Atal Bihari Vajpayee	Prime Minister, Personnel, Public Grievances and Pensions, Planning, Statistics and Programme Implementation, Atomic Energy, Space.
L.K. Advani	Minister of Home Affairs
T.R. Baalu	Minister of Environment & Forests
Sukhdev Singh Dhindsa	Minister of Chemicals & Fertilizers
Jagmohan	Minister of Urban Development & Poverty Alleviation
Dr Murli Manohar Joshi	Minister of Human Resource Development, Science & Technology and Ocean Development
Uma Bharti	Minister of Youth Affairs & Sports
Pramod Mahajan	Minister of Parliamentary Affairs and Information Technology
Ram Naik	Minister of Petroleum and Natural Gas
Jual Oram	Minister of Tribal Affairs
Ram Vilas Paswan	Minister of Communications
Sunder Lal Patwa	Minister of Mines
Kashiram Rana	Minister of Textiles
Jaswant Singh	Minister of External Affairs
Yashwant Sinha	Minister of Finance
Sharad Yadav	Minister of Civil Aviation
Ananth Kumar	Minister of Tourism and Culture
Mamata Bannerjee	Minister of Railways
George Fernandes	Minister of Defence
Manohar Joshi	Minister of Heavy Industries & Public Enterprises
Shanta Kumar	Minister of Consumer Affairs, Food & Public Distribution

Arun Jaitley	Minister of Law & Justice & Company Affairs, Addl. Charge Shipping
M. Venkaiah Naidu	Minister of Rural Development
Murasoli Maran	Minister of Commerce & Industry
Nitish Kumar	Minister of Agriculture
Arjun Sethi	Minister of Water Resources
Suresh Prabhu	Minister of Power
Dr Satya Narayan Jatiya	Minister of Labour
Dr C.P. Thakur	Minister of Health & Family Welfare
Sushma Swaraj	Minister of Information & Broadcasting

MINISTERS OF STATE (INDEPENDENT CHARGE)

Maneka Gandhi	Minister of Social Justice & Empowerment
Maj Gen (Retd) B.C. Khanduri	Minister of Road Transport & Highways
Arun Shourie	Minister of Disinvestment (Independent Charge) & MoS for Statistics & Programme Implementation, Department of Administrative Reforms & Public Grievances and Planning
Vasundhara Raje	Minister of Small Scale Industries, Agro & Rural Industries (Independent Charge), Minister of State in the Department of Personnel and Training, Department of Pensions and Pensioners Welfare, Department of Atomic Energy, Space
Braj Kishore Tripathi	Minister of Steel
M. Kannappan	Minister of Non-Conventional Energy Sources
N.T. Shanmugam	Minister of Coal

MINISTERS OF STATE

Ramesh Bais	Minister of State in the Ministry of Information & Broadcasting
Bijoya Chakravarty	Minister of State in the Ministry of Water Resources
Bandaru Dattatreya	Minister of State in the Ministry of Urban Development and Poverty Alleviation
Jaysingrao Gaikwad Patil	Minister of State in the Ministry of Mines
Syed Shahnawaz Hussain	Minister of State in the Ministry of Human Resource Development
Faggan Singh Kulaste	Minister of State in the Ministry of Tribal Affairs
Subhash Maharia	Minister of State in the Ministry of Rural Development
Jayawanti Mehta	Minister of State in the Ministry of Power
Omar Abdullah	Minister of State in the Ministry of Commerce & Industry

E. Ponnuswamy	Minister of State in the Ministry of Petroleum & Natural Gas
O. Rajagopal	Minister of State in the Ministry of Parliamentary Affairs and Railways
Gingee N. Ramachandran	Minister of State in the Ministry of Finance
Satya Brata Mookherjee	Minister of State in the Ministry of Chemicals & Fertilisers
Bachi Singh Rawat	Minister of State in the Department of Science & Technology
Digvijay Singh	Minister of State in the Ministry of Railways
V. Sreenivasa Prasad	Minister of State in the Ministry of Consumer Affairs, Food & Public Distribution
Dr Rita Verma	Minister of State in the Ministry of Rural Development
Shripad Yesso Naik	Minister of State in the Ministry of Agriculture
Krishnamraju	Minister of State in the Ministry of External Affairs
Hukumdeo Narayan Yadav	Minister of State in the Ministry of Shipping
Shriram Chauhan	Minister of State in the Ministry of Consumer Affairs, Food & Public Distribution
Santosh Gangwar	Minister of State in the Ministry of Petroleum & Natural Gas and Parliamentary Affairs
Prof Chaman Lal Gupta	Minister of State in the Ministry of Civil Aviation
Dr Vallabh Bhai Ramjibhai Kathiria	Minister of State in the Ministry of Heavy Industries & Public Enterprises
V. Dhananjaya Kumar	Minister of State in the Ministry of Textiles
Sumitra Mahajan	Minister of State in the Ministry of Human Resource Development
Muni Lali	Minister of State in the Ministry of Labour
Ajit Kumar Panja	Minister of State in the Ministry of External Affairs
Dr Debendra Pradhan	Minister of State in the Ministry of Agriculture
A. Raja	Minister of State in the Ministry of Health & Family Welfare
Dr Raman	Minister of State in the Ministry of Commerce & Industry
Chennamaneni Vidya Sagar Rao	Minister of State in the Ministry of Home Affairs
Tapan Sikdar	Minister of State in the Ministry of Communications
Th. Chaoba Singh	Minister of State, Food Processing in the Ministry of Agriculture

EV alias Balasaheb Vikhe Patil
I.D. Swami

Minister of State in the Ministry of Finance
Minister of State in the Ministry of Home
Affairs

P. Radhakrishnan

Minister of State in the Ministry of Youth
Affairs & Sports

MEMBERS OF PARLIAMENT

RAJYA SABHA

(As on 2 July 2000)

Chairman

Krishan Kant

Deputy Chairman

Dr (Smt) Najma Heptulla

Name

Party/Group

STATES

ANDHRA PRADESH (18)

- | | |
|--------------------------------|--------|
| 1. N.R. Dasari | CPI |
| 2. C. Ramachandraiah | TDP |
| 3. Dr Dasari Narayana Rao | INC |
| 4. K.M. Saifullah | TDP |
| 5. Rama Muni Reddy Sirigireddy | TDP |
| 6. Rumandla Ramachandraiah | TDP |
| 7. Smt Jayaprada Nahata | TDP |
| 8. K.M. Khan | INC |
| 9. Dr Alladi P. Rajkumar | TDP |
| 10. Dr Y. Radhakrishna Murty | CPI(M) |
| 11. K. Kalavenkata Rao | TDP |
| 12. Yadlapati Venkat Rao | TDP |
| 13. P. Prabhakar Reddy | TDP |
| 14. Dr Y. Lakshmi Prasad | TDP |
| 15. Solipeta Ramachandra Reddy | TDP |
| 16. Dr D. Venkateshwar Rao | BJP |
| 17. K. Rama Mohana Rao | TDP |
| 18. Smt Vanga Geetha | TDP |

ARUNACHAL PRADESH (1)

- | | |
|-----------------|-----|
| 19. Nabam Rebia | IND |
|-----------------|-----|

ASSAM (7)

- | | |
|---------------------------------|-----|
| 20. Karnendu Bhattacharjee | INC |
| 21. Dr Joyasree Goswami Mahanta | AGP |

22.	Prakanta Warisa	ASDC
23.	Drupad Borgohain	CPI
24.	Dr Manmohan Singh	INC
25.	Dr Arun Kumar Sarma	AGP
26.	Smt Basanti Sarma	INC

BIHAR (22)

27.	S.S. Ahluwalia	BJP
28.	Parmeshwar Kumar Agarwalla	BJP
29.	Smt Saroj Dubey	RJD
30.	Anil Kumar	RJD
31.	Smt Kum Kum Rai	RJD
32.	Ram Deo Bhandary	RJD
33.	Gaya Singh	CPI
34.	Dr Faguni Ram	INC
35.	Mahendra Prasad	RJD
36.	Maulana Obaidullah Khan Azmi	JD
37.	Ven'ble Dhammaviriyo	RJD
38.	Ravi Shankar Prasad	BJP
39.	Dr Ramendra Kumar Yadav Ravi	RJD
40.	Nagendra Nath Ojha	CPI
41.	Prem Chand Gupta	RJD
42.	Shatrughan Sinha	BJP
43.	Rajiv Ranjan Singh	JDS
44.	R.K. Anand	JMM
45.	Vijay Singh Yadav	RJD
46.	Ranjan Prasad Yadav	RJD
47.	Kapil Sibal	INC
48.	Shibu Soren	JMM

GOA (1)

49.	Eduardo Faleiro	INC
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GUJARAT (11)

50.	Anantray Devshanker Dave	BJP
51.	Arun Jaitley	BJP
52.	Bangaru Laxman	BJP
53.	Raju Parmar	INC
54.	Ahmed Patel	INC
55.	Dr A.K. Patel	BJP
56.	Lalitbhai Mehta	BJP
57.	Smt Savita Sharda	BJP

- | | | |
|-----|----------------------|-----|
| 58. | Gopalsinh G. Solanki | BJP |
| 59. | Bachani Lekhraj | BJP |
| 60. | Brahmakumar Bhatt | INC |

HARYANA (5)

- | | | |
|-----|---------------------|------|
| 61. | Banarsi Das Gupta | INC |
| 62. | Faqir Chand Mullana | INLD |
| 63. | Devi Lal | INLD |
| 64. | Swaraj Kaushal | HVP |
| 65. | Lachhman Singh | INC |

HIMACHAL PRADESH (3)

- | | | |
|-----|----------------------|-----|
| 66. | Kripal Parmar | BJP |
| 67. | Anil Sharma | HVC |
| 68. | Smt Chandresh Kumari | INC |

JAMMU & KASHMIR (4)

- | | | |
|-----|-----------------------|-----|
| 69. | Ghulam Nabi Azad | INC |
| 70. | Mirza Abdul Rashid | NC |
| 71. | Sharief-Ud-Din Shariq | NC |
| 72. | Kushok Thiksey | NC |

KARNATAKA (12)

- | | | |
|-----|----------------------|-----|
| 73. | S.R. Bommai | JD |
| 74. | K.B. Krishna Murthy | INC |
| 75. | Smt Bimba Raikar | INC |
| 76. | Oscar Fernandes | INC |
| 77. | K. Rahman Khan | INC |
| 78. | Ramakrishna Hegde | JD |
| 79. | H.K. Javare Gowda | JD |
| 80. | C.M. Ibrahim | JD |
| 81. | M. Rajasekara Murthy | BJP |
| 82. | K.C. Kondaiah | INC |
| 83. | Prof A. Lakshmisagar | JD |
| 84. | M. Venkaiah Naidu | BJP |

KERALA (9)

- | | | |
|-----|-------------------------|--------|
| 85. | J. Chitharanjan | CPI |
| 86. | Korambayil Ahammed Haji | MUL |
| 87. | V.V. Raghavan | CPI |
| 88. | M.J. Varkey Mattathil | KC |
| 89. | S. Ramachandran Pillai | CPI(M) |
| 90. | C.O. Poullose | CPI(M) |

- | | |
|---------------------------|--------|
| 91. N.K. Premachandran | RSP |
| 92. M.P.A. Samad Samadani | MUL |
| 93. A. Vijaya Raghavan | CPI(M) |

MADHYA PRADESH (16)

- | | |
|---------------------------|-----|
| 94. Lakkhiram Agarwal | BJP |
| 95. Sikander Bakht | BJP |
| 96. Hansraj Bhardwaj | INC |
| 97. Abdul Gaiyur Qureshi | INC |
| 98. Kailash Joshi | BJP |
| 99. Balkavi Bairagi | INC |
| 100. Dilip Singh Judev | BJP |
| 101. Bhagatram Manhar | INC |
| 102. Vikram Verma | BJP |
| 103. Suresh Pachouri | INC |
| 104. Arjun Singh | INC |
| 105. O. Rajagopal | BJP |
| 106. Surendra Kumar Singh | INC |
| 107. P.K. Maheshwari | INC |
| 108. Jhumuk Lal Bhendia | INC |
| 109. Miss Mabel Rebello | INC |

MAHARASHTRA (19)

- | | |
|--|-----|
| 110. B.P. Apte | BJP |
| 111. Suresh A. Keswani | IND |
| 112. S.B. Chavan | INC |
| 113. Vedprakash P. Goyal | BJP |
| 114. Yusuf Sarwar Khan
<i>alias</i> Dilip Kumar | INC |
| 115. Dr (Smt) Najma Heptulla | INC |
| 116. Mukesh R. Patel | SHS |
| 117. Ram Jethmalani | IND |
| 118. Vijay J. Darda | IND |
| 119. Suryabhan Patil Vahadane | BJP |
| 120. Adhik Shirodkar | SHS |
| 121. R.S. Gavai | RPI |
| 122. Suresh Kalmadi | INC |
| 123. Praful Patel | NCP |
| 124. Pramod Mahajan | BJP |
| 125. Satish Pradhan | SHS |
| 126. N.K.P. Salve | INC |
| 127. Sanjay Nirupam | SHS |

128. Pritish Nandy	SHS
MANIPUR (1)	
129. W. Angou Singh	INC
MEGHALAYA (1)	
130. Onward L. Nongtdu	INC
MIZORAM (1)	
131. Hiphei	INC
NAGALAND (1)	
132. C. Apok Jamir	INC
ORISSA (10)	
133. Man Mohan Samal	BJP
134. B.J. Panda	BJD
135. Maurice Kujur	INC
136. Birabhadra Singh	BJD
137. Dr M.N. Das	INC
138. Dilip Ray	BJD
139. Ramachandra Khuntia	INC
140. Ananta Sethi	INC
141. Miss Frida Topno	INC
142. Ranganath Misra	INC
PUNJAB (7)	
143. Barjinder Singh Hamdard	IND
144. Sardar Balwinder Singh Bhundar	SAD
145. Sardar Gurcharan Singh Tohra	SAD
146. Sukhdev Singh Libra	SAD
147. Raj Mohinder Singh	SAD
148. Lajpat Rai	BJP
149. Sukhdev Singh Dhindsa	SAD
RAJASTHAN (10)	
150. Ramdas Agarwal	BJP
151. R.P. Goenka	INC
152. Krishna Kumar Birla	INC
153. Smt Jamana Devi Barupal	INC
154. Moolchand Meena	INC
155. Santosh Bagrodia	INC
156. Dr Mahesh Chandra Sharma	BJP
157. Aimaduddin Ahmad Khan (Durru)	INC
158. Jaswant Singh	BJP
159. Dr L.M. Singhvi	BJP

SIKKIM (1)

160. K.G. Bhutia

SDF

TAMIL NADU (18)

161. S. Agniraj

DMK

162. M.A. Kadar

DMK

163. V.P. Duraisamy

DMK

164. P.N. Siva

DMK

165. P. Soundararajan

AIADMK

166. N. Thalavai Sundaram

AIADMK

167. S. Niraikulathan

AIADMK

168. G.K. Moopnar

TMC(M)

169. O.S. Manian

AIADMK

170. Smt Jayanthi Natarajan

TMC (M)

171. Prof M. Sankaralingam

DMK

172. R. Margabandu

AIADMK

173. Dr D. Masthan

IND

174. S. Sivasubramanian

DMK

175. S. Viduthalai Virumbi

DMK

176. N. Rajendran

IND

177. Ka. Ra. Subbian

DMK

178. S. Peter Alphonse

TMC (M)

TRIPURA (1)

179. Khagen Das

CPI (M)

UTTAR PRADESH (34)

180. Sangh Priya Gautam

BJP

181. Ghanshyam Chandra Kharwar

BSP

182. T.N. Chaturvedi

BJP

183. Akhilesh Das

INC

184. Munavvar Hasan

SP

185. R.N. Arya

BSP

186. Gandhi Azad

BSP

187. Kanshi Ram

BSP

188. Chaudhary Chunni Lal

BJP

189. Balbir K. Punj

BJP

190. Dara Singh Chauhan

SP

191. Rama Shanker Kaushik

SP

192. Ram Nath Kovind

BJP

193. Manohar Kant Dhyani

BJP

194. Dr Swami Sakshiji Maharaj

SP

195. Mohd. Azam Khan

SP

196. Narendra Mohan

BJP

197. Janeshwar Misra

SP

198. Balwant Singh Ramoowalia

IND

Appendices

199. Dina Nath Mishra	BJP
200. Dr Akhtar Hasan Rizvi	IND
201. Amar Singh	SP
202. Devi Prasad Singh	BJP
203. Smt Sushma Swaraj	BJP
204. Arun Shourie	BJP
205. Rajnath Singh 'Surya'	BJP
206. B.P. Singhal	ABLTG
207. Rajeev Shukla	BJP
208. Rajnath Singh	BJP
209. Prof R.B.S. Varma	IND
210. Prof M.M. Agarwal	SP
211. Prof Ram Gopal Yadav	INC
212. Khan Ghufuran Zahidi	IND
213. D.P. Yadav	
WEST BENGAL (16)	
214. Nilotpal Basu	CPI(M)
215. Debabrata Biswas	AIFB
216. Abani Roy	RSP
217. Dr Biplab Dasgupta	CPI(M)
218. Manoj Bhattacharya	RSP
219. Smt Sarla Maheshwari	CPI(M)
220. Dawa Lama	CPI(M)
221. Md. Salim	CPI(M)
222. Shankar Roy Chowdhury	IND
223. Dipankar Mukherjee	CPI(M)
224. Pranab Mukherjee	INC
225. Smt Chandra Kala Pandey	CPI(M)
226. Bratin Sengupta	CPI(M)
227. Jibon Roy	CPI(M)
228. Jayanta Bhattacharya	IND
229. Prof (Smt) Bharati Ray	CPI(M)
UNION TERRITORIES	
DELHI (3)	
230. Dr A.R. Kidwai	INC
231. Dr Karan Singh	INC
232. Smt Ambika Soni	INC
PONDICHERRY (1)	
233. C.P. Thirunavakkarasu	DMK

NOMINATED BY THE PRESIDENT (12)

234. Fali S. Nariman
235. Ms Lata Mangeshkar
236. Cho S. Ramaswamy
237. Smt Shabana Azmi
238. Dr (Ms) P. Selvie Das
239. Nana Deshmukh
240. Kartar Singh Duggal
241. Kuldip Nayyar
242. Dr Raja Ramanna
243. Dr C. Narayana Reddy
244. Mrinal Sen
245. Chaudhary Harmohan Singh Yadav¹

¹ Belongs to SP

LOK SABHA

(As on 29 August 2000)

Speaker : G.M.C. Balayogi

State/Constituency	Name of the Member	Party/Group
ANDHRA PRADESH (42)		
1 Adilabad	Dr Samudrala Venu Gopal	TDP
2 Amalapuram (SC)	G.M.C. Balayogi	TDP
3 Anakapalli	Ganta Srinivasa Rao	TDP
4 Anantapur	Kalava Srinivasulu	TDP
5 Bapatla	D. Rama Naidu	TDP
6 Bhadrachalam (ST)	Smt Dumpa Mary Vijaya Kumari	TDP
7 Bobbili	Botcha Satyanarayana	INC
8 Chittoor	Noothanakaiva Ramakrishna Reddy	TDP
9 Cuddapah	Vivekananda Y.S. Reddy	INC
10 Eluru	Bolla Bulli Ramaiah	TDP
11 Guntur	Yemparala Venkateswara Rao	TDP
12 Hanamkonda	Chada Suresh Reddy	TDP
13 Hindupur	B.K.Parthasarathi	TDP
14 Hyderabad	Sultan Salahuddin Owaisi	AIMIM
15 Kakinada	Mudragada Padmanabham	TDP
16 Karimnagar	Chennamaneni Vidyasagar Rao	BJP
17 Khammam	Smt Renuka Chopdhury	INC
18 Kurnool	Kambhalapati E.Krishna Murthy	TDP
19 Machilipatnam	Ambatu Brahmanaiiah	TDP
20 Mahabubnagar	A.P. Jitender Reddy	BJP
21 Medak	A. Narendra	BJP

Appendices

22	Miryalguda	S. Jaipal Reddy	INC
23	Nagarkurnool(SC)	Dr Manda Jagannath	TDP
24	Nalgonda	Gutha Sukender Reddy	TDP
25	Nandyal	Bhuma Nagi Reddy	TDP
26	Narasarapet	N. Janardhana Reddy	INC
27	Narsapur	Krishnam Raju	BJP
28	Nellore (SC)	Dr Rajeswaramma Vukkala	TDP
29	Nizamabad	Gaddam Ganga Reddy	TDP
30	Ongole	Karanam Balarama Krishna Murthy	TDP
31	Parvathipuram (ST)	Dadichiluka Veera Gouri Sankara Rao	TDP
32	Peddapalli (SC)	Dr (Smt) C. Suguna Kumari	TDP
33	Rajahmundry	S.B.P.B.K. Satyanarayana Rao	BJP
34	Rajampet	Gunipati Ramaiah	TDP
35	Secunderabad	Bandaru Dattatreya	BJP
36	Siddipet (SC)	Malyala Rajaiah	TDP
37	Srikakulam	Kinjarapu Yerrannaidu	TDP
38	Tenali	Prof Ummareddy Venkateswarlu	TDP
39	Tirupathi(SC)	Dr N.Venkataswamy	BJP
40	Vijayawada	Gadde Rama Mohan	TDP
41	Visakhapatnam	M.V.V.S. Murthy	TDP
42	Warangal	Bodakunti Venkateswarlu	TDP

ARUNACHAL PRADESH (2)

43	Arunachal East	Wangcha Rajkumar	INC
44	Arunachal West	Jarbom Gamlin	INC

ASSAM (14)

45	Autonomous District(ST)	Dr Jayanta Rongpi	CPI(ML)
46	Barpeta	A.F. Golam Osmani	INC
47	Dhurbi	Abdul Hamid	INC
48	Dibrugarh	Paban Singh Ghatowar	INC
49	Guwahati	Smt Bijoy Chakravarty	BJP
50	Jorhat	Bijoy Krishna Handique	INC
51	Kaliabor	Tarun Gogoi	INC
52	Karimganj (SC)	Nepal Chandra Das	INC
53	Kokrajhar (ST)	Sansuma Khungur Bwiswmuthiary	IND
54	Lakhimpur	Smt Ranee Narah	INC
55	Mangaldoi	Madhab Rajbangshi	INC
56	Nowgong	Rajen Gohain	BJP
57	Silchar	Sontosh Mohan Dev	INC
58	Tezpur	Monu Kumar Subba	INC

BIHAR (54)

59	Araria (SC)	Sukhdeo Paswan	RJD
60	Arrah	Ram Prasad Singh	RJD
61	Aurangabad	Smt Shyama Singh	INC
62	Bahaga (SC)	Mahendra Baitha	JDS
63	Balia	Ram Jiwan Singh	JDU
64	Banka	Dig Vijay Singh	JDS
65	Barh	Nitish Kumar	JDS
66	Begusarai	Rajo Singh	INC
67	Bettiah	Dr Madan Prasad Jaiswal	BJP
68	Bhagalpur	Subodh Ray	CPI(M)
69	Bikramganj	Smt Kanti Singh	RJD
70	Buxar	Lal Muni Chaubey	BJP
71	Chapra	Rajiv Pratap Rudy	BJP
72	Chatra	Nagmani	RJD
73	Darbhanga	Kirti Jha Azad	BJP
74	Dhanbad	Prof Rita Verma	BJP
75	Dumka (ST)	Babulal Marandi	BJP
76	Gaya (SC)	Ramjee Manjhi	BJP
77	Giridih	Ravindra Kumar Pandey	BJP
78	Godda	Jagdambi Prasad Yadav	BJP
79	Gopalganj	Raghunath Jha	JDS
80	Hajipur (SC)	Ram Vilas Paswan	JDU
81	Hazaribagh	Yashwant Sinha	BJP
82	Jahanabad	Arun Kumar	JDS
83	Jamshedpur	Smt Abha Mahato	BJP
84	Jhanjharpur	Devendra Prasad Yadav	JDU
85	Katihar	Nikhil Kumar Choudhary	BJP
86	Khagaria	Smt Renu Kumari	JDS
87	Khunti (ST)	Kariya Munda	BJP
88	Kishanganj	Sayed Hussain Shah Nawaz	BJP
89	Kodarma	Tilakdhari Pd. Singh	INC
90	Lohardaga (ST)	Prof Dukha Bhagat	BJP
91	Madhepura	Sharad Yadav	JDU
92	Madhubani	Hukumdeo Narayan Yadav	BJP
93	Maharajganj	Prabhu Nath Singh	JDS
94	Monghyr	Brahmanand Mandal	JDS
95	Motihari	Radha Mohan Singh	BJP
96	Muzaffarpur	Capt Jainarain Prasad Nishad	JDU
97	Nalanda	George Fernandes	JDS

Appendices

98	Nawada (SC)	Dr Sanjay Paswan	BJP
99	Palamau (SC)	Braj Mohan Ram	BJP
100	Patna	Dr C.P. Thakur	BJP
101	Purnea	Rajesh Ranjan	IND
102	Rajmahal (ST)	Thomas Hansda	INC
103	Ranchi	Ram Tahal Chaudhary	BJP
104	Rosera (SC)	Ram Chandra Paswan	JDU
105	Saharsa	Dinesh Chandra Yadav	JDU
106	Samastipur	Manjay Lal	JDS
107	Sasaram (SC)	Muni Lall	BJP
108	Sheohar	Md Anwarul Haque	RJD
109	Singhbhum(ST)	Laxman Giluwa	BJP
110	Sitamarhi	Nawal Kishore Rai	JDU
111	Siwan	Mohammed Shahabuddin	RJD
112	Vaishali	Raghuvansh Prasad Singh	RJD
DELHI (7)			

113	Chandni Chowk	Vijay Goel	BJP
114	East Delhi	Lal Bihari Tiwari	BJP
115	Karol Bagh (SC)	Dr Anita Arya	BJP
116	New Delhi	Jag Mohan	BJP
117	Outer Delhi	Sahib Singh Verma	BJP
118	Delhi Sadar	Madan Lal Khurana	BJP
119	South Delhi	Vijay Kumar Malhotra	BJP

GOA (2)

120	Mormugao	Ramakant	BJP
121	Panaji	Shripad Naik Yasso	BJP

GUJARAT (26)

122	Ahmadabad	Harin Pathak	BJP
123	Amreli	Dileep Sanghani	BJP
124	Anand	Dipakbhai Chimanbhai Patel	BJP
125	Banaskantha	Haribhai Chaudhari	BJP
126	Baroda	Smt Jayaben Thakkar	BJP
127	Bhavnagar	Rajendrasinh Rana	BJP
128	Broach	Mansukhbhai Vasava	BJP
129	Bulsar (ST)	Manibhai Ramjibhai Chaudhari	BJP
130	Chhota Udaipur (ST)	Ramsinh Rathawa	BJP
131	Dhandhuka (SC)	Ratilal Kalidas Varma	BJP

132	Dohad (ST)	Babubhai Khimbhai Kataria	BJP
133	Gandhinagar	Lal Krishna Advani	BJP
134	Godhra	Bhupendrasinh Solanki	BJP
135	Jamnagar	Chandresh Patel	BJP
136	Junagadh	Smt Bhavnaben Chikhaliya	BJP
137	Kaira	Dinsha Patel	INC
138	Kapadvanj	Shankarsinh Laxmansinh Vaghela	INC
139	Kutch	Pushpadan Sambhudhan Gadhvi	BJP
140	Mandvi (ST)	Man Sinh Patel	BJP
141	Mehsana	Atmaram Maganbhai Patel	INC
142	Patan (SC)	Pravinchandra Somabhai Rashtrapal	INC
143	Porbandar	Gordhanbhai Jadavbhai Javia	BJP
144	Rajkot	Dr Vallabhbbhai Kathiria	BJP
145	Sabarkantha	Smt Nisha Amarsinh Chaudhary	INC
146	Surat	Kashi Ram Rana	BJP
147	Surendranagar	Savshibhai Kanjibhai Makwana	INC

HARYANA (10)

148	Ambala (SC)	Rattan Lal Kataria	BJP
149	Bhiwani	Ajay Singh Chautala	INLD
150	Faridabad	Ram Chander Bainsa	BJP
151	Hissar	Surender Singh Barwala	INLD
152	Karnal	I.D. Swami	BJP
153	Kurukshetra	Prof Kailasho Devi	INLD
154	Mahendragarh	Dr Sudha Yadav	BJP
155	Rohtak	Capt Inder Singh	INLD
156	Sirsa (SC)	Dr Sushil Kumar Indora	INLD
157	Sonepat	Kishan Singh Sangwan	BJP

HIMACHAL PRADESH (4)

158	Hamirpur	Suresh Chandel	BJP
159	Kangra	Shanta Kumar	BJP
160	Mandi	Maheshwar Singh	BJP
161	Shimla (SC)	Dr Col Dhanu Ram Shandil	HVC

JAMMU & KASHMIR (6)

162	Anantnag	Ali Mohd Naik	NC
163	Baramullah	Abdul Rasheed Shaheen	NC
164	Jammu	Vaishno Datth Sharma	BJP

Appendices

165	Ladakh	Hassan Khan	NC
166	Srinagar	Omer Abdullah	NC
167	Udhampur	Prof Chaman Lal Gupta	BJP

KARNATAKA (28)

168	Bagalkot	R.S. Patil	INC
169	Bangalore North	C.K. Jaffar Sharief	INC
170	Bangalore South	Ananth Kumar	BJP
171	Belgaum	Amarsinh Vasantrao Patil	INC
172	Bellary	K. Basavana Goud	INC
173	Bidar (SC)	Ramachandra Veerappa	BJP
174	Bijapur	Basangouda Ramangouda Patil	BJP
175	Chamarajanagar (SC)	V. Sreenivasa Prasad	JDS
176	Chikmagalur	D.C. Sreekantappa	BJP
177	Chikballapur	R.L. Jalappa	INC
178	Chikkodi(SC)	Jigajinagi Ramesh Chandappa	JDU
179	Chitradurga	K. Sashi Kumar	JDU
180	Davangere	G. Mallikarjunappa	BJP
181	Dharwad North	Vijay Sankeshwar	BJP
182	Dharwad South	Prof I.G. Sanadi	INC
183	Gulbarga	Iqbal Ahmed Saradgi	INC
184	Hassan	G. Puttaswamy Gowda	INC
185	Kanakapura	M.V.Chandrashekhara Murthy	INC
186	Kanara	Smt Margaret Alva	INC
187	Kolar (SC)	K.H. Muniyappa	INC
188	Koppal	H.G Ramulu	INC
189	Mandya	Ambareesh	INC
190	Mangalore	Dhananjaya Kumar	BJP
191	Mysore	Srikantadatta Narasimharaja Wadiyar	INC
192	Raichur	A. Venkatesh Naik	INC
193	Shimoga	S. Bangarappa	INC
194	Tumkur	G.S. Basavaraj	INC
195	Udupi	Vinaya Kumar Sorake	INC

KERALA (20)

196	Adoor (SC)	Kodikunnil Suresh	INC
197	Alleppey	V.M. Sudheeran	INC
198	Badagara	Prof A.K. Premajam	CPI(M)
199	Calicut	K. Muraleedharan	INC
200	Cannanore	A.P. Abdullakutty	CPI(M)

201	Chirayinkil	Varkala Radhakrishnan	CPI(M)
202	Ernakulam	Adv George Eden	INC
203	Idukki	K.Francis George	KEC
204	Kasaragod	T. Govindan	CPI(M)
205	Quilon	P. Rajendran	CPI(M)
206	Kottayam	Suresh Kurup	CPI(M)
207	Manjeri	E. Ahamed	MUL
208	Mavelikara	Ramesh Chennithala	INC
209	Mukundapuram	K. Karunakaran	INC
210	Muvattupuzha	Adv P.C. Thomas	KC(M)
211	Ottapalam (SC)	S. Ajaya Kumar	CPI(M)
212	Palghat	N.N. Krishnadas	CPI(M)
213	Ponnani	Gulam Mehmood Banatwalla	MUL
214	Thiruvananthapuram	V.S. Sivakumar	INC
215	Trichur	A.C. Jose	INC

MADHYA PRADESH (40)

216	Balaghat	Prahlad Singh Patel	BJP
217	Bastar (ST)	Baliram Kashyap	BJP
218	Betul	Vijay Kumar Khandelwal	BJP
219	Bhind	Dr Ram Lakhan Singh	BJP
220	Bhopal	Ms Uma Bharti	BJP
221	Bilaspur (SC)	Punnulal Mohale	BJP
222	Chindwara	Kamal Nath	INC
223	Damoh	Dr Ramkrishna Kusmaria	BJP
224	Dhar (ST)	Gajendra Singh Rajukhedi	INC
225	Durg	Tara Chand Sahu	BJP
226	Guna	Madhavrao Scindia	INC
227	Gwalior	Jaibhan Pavaiya Singh	BJP
228	Hoshangabad	Sundarlal Patwa	BJP
229	Indore	Smt Sumitra Mahajan	BJP
230	Jabalpur	Smt Jaishree Banerjee	BJP
231	Janjgir	Dr Charan Das Mahant	INC
232	Jhabua (ST)	Kanti Lal Bhuriya	INC
233	Kanker (ST)	Sohan Potai	BJP
234	Khajuraho	Satyavrat Chaturvedi	INC
235	Khandwa	Nand Kumar Singh Chouhan	BJP
236	Khargone	Tarachand Shivaji Patel	INC
237	Mahasamund	Shyama Charan Shukla	INC
238	Mandla (ST)	Faggan Singh Kulaste	BJP

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239	Mandsaur	Dr Laxminarayan Pandey	BJP
240	Morena (SC)	Ashok Chhaviram Argel	BJP
241	Raigarh (ST)	Sai Vishnudeo	BJP
242	Raipur	Ramesh Bais	BJP
243	Rajgarh	Laxman Singh	INC
244	Rajnandgaon	Dr Raman	BJP
245	Rewa	Sunder Lal Tiwari	INC
246	Sagar (SC)	Virendra Kumar	BJP
247	Sarangarh (SC)	P.R. Khunte	BJP
248	Satna	Ramanand Singh	BJP
249	Seoni	Ram Naresh Tripathi	BJP
250	Shahdol (ST)	Dalpat Singh Parste	BJP
251	Shajapur (SC)	Thavar Chand Gehlot	BJP
252	Sidhi (ST)	Chandra Pratap Singh	BJP
253	Surguja(ST)	Khel Sai Singh	INC
254	Ujjain (SC)	Dr Satyanarayan Jatiya	BJP
255	Vidisha	Shivraj Singh	BJP

MAHARASHTRA (48)

256	Ahmednagar	Dilipkumar Mansukhlal Gandhi	BJP
257	Akola	Prakash Yashawant Ambedkar	BBM
258	Amravati	Anant Mahadeoappa Gudhe	SHS
259	Aurangabad	Chandrakant Khaire	SHS
260	Baramati	Sharad Pawar	NCP
261	Beed	Jaisingrao Gaikwad Patil	BJP
262	Bhandara	Chunnilalbhair Thakur	BJP
263	Buldhana (SC)	Anandrao Vithoba Adsul	SHS
264	Chandrapur	Nareshkumar Chunnalal Puglia	INC
265	Chimur	Prof. Namdeo Harbaji Diwathe	BJP
266	Dahanu (ST)	Adv Chintaman Wanaga	BJP
267	Dhule (ST)	Ramdas Rupla Gavit	BJP
268	Erandol	Annasaheb M. K. Patil	BJP
269	Hingoli	Shivaji Gyanba Rao Mane	SHS
270	Ichakaranji	Smt Nivedita Sambhaji Rao Mane	NCP
271	Jalgaon	Y.G. Mahajan	BJP
272	Jalna	Danve Raosaheb Dadarao Patil	BJP
273	Karad	Shriniwas Dadasaheb Patil (Marulkar)	NCP
274	Khed	Ashok Namdeorao Mohol	NCP
275	Kolaba	Ramsheth Thakur	PWPI
276	Kolhapur	Mandlik Sadashivrao Dadoba	NCP

277	Kopergaon	Balasaheb Vikhe Patil	SHS
278	Latur	Shivraj V. Patil	INC
279	Malegaon (ST)	Haribhau Shankar Mahale	JDS
280	Mumbai North	Ram Naik	BJP
281	Mumbai North Central	Manohar Gajanan Joshi	SHS
282	Mumbai North West	Sunil Dutt	INC
283	Mumbai North-East	Kirit Somaiya	BJP
284	Mumbai South	Smt Jayawanti Mehta	BJP
285	Mumbai South Central	Mohan Vishnu Rawale	SHS
286	Nagpur	Vilas Muttemwar	INC
287	Nanded	Bhaskarrao Bapurao Khatagaonkar	INC
288	Nandurbar (ST)	Manikrao H. Gavit	INC
289	Nashik	Adv Uttam Rao Dhikale	SHS
290	Osmanabad (SC)	Shivaji Vithalrao Kamble	SHS
291	Pandharpur (SC)	Ramdas Bandu Athawale	IND
292	Parbhani	Adv Suresh Ramrao Jadhav	SHS
293	Pune	Pradeep Rawat	BJP
294	Rajapur	Suresh Prabhakar Prabhu	SHS
295	Ramtek	Subodh Mohile	SHS
296	Ratnagiri	Anant Gangaram Geete	SHS
297	Sangli	Prakash Vasantrao Patil	INC
298	Satara	Laxmanrao Pandurang Jadhav (Patil)	NCP
299	Solapur	Sushil Kumar Shinde	INC
300	Thane	Prakash Paranjape	SHS
301	Wardha	Smt Prabha Rau	INC
302	Washim	Bhavana Pundlikrao Gawli	SHS
303	Yavatmal	Uttamrao Deorao Patil	INC

MANIPUR (2)

304	Inner Manipur	Th. Chaoba Singh	MSCP
305	Outer Manipur (ST)	Holkhomang Haokip	NCP

MEGHALAYA (2)

306	Shillong	Paty Ripple Kyndiah	INC
307	Tura	Purno Agitok Sangma	NCP

Appendices

NAGALAND (1)

308	Nagaland	K. Asungba Sangtam	INC
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ORISSA (21)

309	Aska	Smt Kumudini Patnaik	BJD
310	Balasore	Kharabela Swain	BJP
311	Berhampur	Anadicharan Sahu	BJP
312	Bhadrak (SC)	Arjun Sethi	BJD
313	Bhubaneswar	Prasanna Kumar Patasani	BJD
314	Bolangir	Ms Sangeeta Kumari Singh Deo	BJP
315	Cuttack	Bhartruhari Mahtab	BJD
316	Deogarh	Debendra Pradhan	BJP
317	Dhenkanal	Kamakshya Prasad Singhdeo	INC
318	Jagatsinghpur	Trilochan Kanungo	BJD
319	Jajpur (SC)	Jagannath Mallik	BJD
320	Kalahandi	Bikram Keshari Deo	BJP
321	Kendrapara	Prabhat Kumar Samantray	BJD
322	Keonjhar (ST)	Ananta Nayak	BJP
323	Koraput (ST)	Smt Hema Gamang	INC
324	Mayurbhanj (ST)	Salkhan Murmu	BJP
325	Nowrangpur (ST)	Parsuram Majhi	BJP
326	Phulbani (SC)	Padmanava Behera	BJD
327	Puri	Braja Kishore Tripathi	BJD
328	Sambalpur	Prasanna Acharya	BJD
329	Sundargarh (ST)	Jual Oram	BJP

PUNJAB (13)

330	Amritsar	Raghunandan Lal Bhatia	INC
331	Bathinda (SC)	Bhan Singh Bhaura	CPI
332	Faridkot	Jagmeet Singh Brar	INC
333	Ferozepur	Zora Singh	SAD
334	Gurdaspur	Vinod Khanna	BJP
335	Hoshiarpur	Charanjit Singh Channi	INC
336	Jullundur	Balbir Singh	INC
337	Ludhiana	Gurcharan Singh Galib	INC
338	Patiala	Smt Preneet Kaur	INC
339	Phillaur (SC)	Santosh Chaudhary	INC
340	Ropar (SC)	Shamsher Singh	INC
341	Sangrur	Simranjit Singh Mann	SAD(M)
342	Tarn Taran	Tarlochan Singh Tur	SAD

RAJASTHAN (25)

343	Ajmer	Rasa Singh Rawat	BJP
344	Alwar	Dr Jaswant Singh Yadav	BJP
345	Banswara (ST)	Tarachand Bhagora	INC
346	Barmer	Col Sona Ram Choudhary	INC
347	Bayana (SC)	Bahadur Singh	BJP
348	Bharatpur	Vishvendra Singh	BJP
349	Bhilwara	Vijayendra Pal Singh	BJP
350	Bikaner	Rameshwar Lal Dudi	INC
351	Churu	Ram Singh Kaswan	BJP
352	Chittorgarh	Srichand Kriplani	BJP
353	Dausa	Smt Rama Pilot	INC
354	Ganganagar (SC)	Nihal Chand Chouhan	BJP
355	Jaipur	Girdhari Lal Bhargava	BJP
356	Jalore (SC)	Buta Singh	INC
357	Jhalawar	Smt Vasundhara Raje	BJP
358	Jhunjhunu	Sis Ram Ola	INC
359	Jodhpur	Jaswant Singh Vishnoi	BJP
360	Kota	Raghuvir Singh Koushal	BJP
361	Nagaur	Ramraghunath Choudhary	INC
362	Pali	Pushp Jain	BJP
363	Salumber (ST)	Bheru Lal Meena	INC
364	Sawai Madhopur (ST)	Smt Jas Kaur Meena	BJP
365	Sikar	Subhash Maharia	BJP
366	Tonk (SC)	Shyam Lal Bansawal	BJP
367	Udaipur	Dr Girija Vyas	INC

SIKKIM (1)

368	Sikkim	Bhim Prasad Dahal	SDF
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TAMIL NADU (39)

369	Arakkonam	Dr S. Jagathrakshakan	DMK
370	Chengalpattu	A.K. Moorthy	PMK
371	Chennai Central	Murasoli Maran	DMK
372	Chennai North	C. Kuppusamy	DMK
373	Chennai South	T.R. Baalu	DMK
374	Chidambaram (SC)	E. Ponnuswamy	PMK
375	Coimbatore	C.P. Radhakrishnan	BJP
376	Cuddalore	Adhi Sankar	DMK
377	Dharmapuri	P.D. Elangovan	PMK
378	Dindigul	C. Sreenivaasan	AIADMK

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379	Gobichettipalayam	K.K. Kaliappan	AIADMK
380	Karur	M. Chinnasamy	AIADMK
381	Krisnagiri	V. Vetrivelan	DMK
382	Madurai	P. Mohan	CPI(M)
383	Mayiladuturai	Manishankar Aiyar	INC
384	Nagapattinam (SC)	A.K.S. Vijayan	DMK
385	Nagercoil	Pon Radhakrishnan	BJP
386	Nilgiris	M. Master Mathan	BJP
387	Palani	P. Kumarasamy	AIADMK
388	Perambalur (SC)	A. Raja	DMK
389	Periyakulam	Dinakaran	AIADMK
390	Pollachi (SC)	Dr C. Krishnan	MDMK
391	Pudukkottai	Thirunavukarasu	(MGR)AIADMK
392	Ramanthapuram	K. Malaisamy	AIADMK
393	Rasipuram(SC)	Dr V. Saroja	AIADMK
394	Salem	T.M. Selvaganapathi	AIADMK
395	Sivaganga	E.M. Sudarsana Natchiappan	INC
396	Sivakasi	Vaiko	MDMK
397	Sriperumbudur (SC)	A. Krishnaswamy	DMK
398	Tenkasi (SC)	S. Murugesan	AIADMK
399	Thanjavur	S.S. Palaniamanickam	DMK
400	Tindivanam	Gingee N. Ramachandran	MDMK
401	Tiruchendur	A.D.K. Jeyaseelan	DMK
402	Tiruchengode	M. Kannappan	MDMK
403	Tiruchirappalli	Vacant	
404	Tirunelveli	P.H. Pandian	AIADMK
405	Tiruppattur	D. Venugopal	DMK
406	Vandavasi	M. Durai	PMK
407	Vellore	N.T. Shanmugam	PMK

TRIPURA (2)

408	Tripura East (ST)	Baju Ban Riyan	CPI(M)
409	Tripura West	Samar Chowdhury	CPI(M)

UTTAR PRADESH (85)

410	Agra	Raj Babbar	SP
411	Ajamgarh	Ramakant Yadav	SP
412	Akbarpur (SC)	Ms Mayawati	BSP
413	Aligarh	Smt Sheela Gautam	BJP
414	Allahabad	Dr Murli Manohar Joshi	BJP
415	Almora	Bachi Singh Rawat	BJP
416	Amethi	Smt Sonia Gandhi	INC

417	Amroha	Rashid Alvi	BSP
418	Aonla	Kunwar Sarv Raj Singh	SP
419	Bagpat	Ajit Singh	RLD
420	Bahraich	Padma Sen Choudhry	BJP
421	Balia	Chandra Shekhar	SJPR
422	Balrampur	Rizwan Zaheer Khan	SP
423	Banda	Ram Sajiwan	BSP
424	Bansgaon (SC)	Raj Narayan Pasi	BJP
425	Barabanki (SC)	Ram Sagar	SP
426	Bareilly	Santosh Kumar Gangwar	BJP
427	Basti (SC)	Sriram Chauhan	BJP
428	Bijnor (SC)	Sheeshram Singh Ravi	BJP
429	Bilhaur	Shyam Bihari Misra	BJP
430	Budaun	Saleem Iqbal Sherwani	SP
431	Bulandshahr	Chhatra Pal Singh	BJP
432	Chail (SC)	Suresh Pasi	BSP
433	Chandauli	Jawahar Lal Jaiswal	SP
434	Deoria	Prakash Mani Tripathi	BJP
435	Domariaganj	Ram Pal Singh	BJP
436	Etah	Kr Devendra Singh Yadav	SP
437	Etawah	Raghuraj Singh Shakya	SP
438	Faizabad	Vinay Katiyar	BJP
439	Farrukhabad	Chandra Bhushan Singh	SP
440	Fatehpur	Dr Ashok Kumar Patel	BJP
441	Firozabad (SC)	Ramji Lal Suman	SP
442	Garhwal	Maj.Gen.(Rtd.) Bhuwan Chandra Khanduri	BJP
443	Ghatampur (SC)	Pyare Lal Sankhwar	BSP
444	Ghazipur	Manoj Singh	BJP
445	Ghosi	Bal Krishna Chauhan	BSP
446	Gonda	Brij Bhushan Sharan Singh	BJP
447	Gorakhpur	Aditya Nath	BJP
448	Hamirpur	Ashok Kumar Singh Chandel	BSP
449	Hapur	Dr Ramesh Chand Tomar	BJP
450	Hardoi (SC)	Jai Prakash	ABLTC
451	Hardwar (SC)	Harpal Singh Sathi	BJP
452	Hathras (SC)	Kishan Lal Diler	BJP
453	Jalaun (SC)	Brajlal Khabri	BSP
454	Jalesar	Prof S.P. Singh Baghel	SP
455	Jaunpur	Chinmayanand Swami	BJP
456	Jhansi	Sujan Singh Bundela	INC

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457	Kairana	Amir Alam	RLD
458	Kaiserganj	Beni Prasad Verma	SP
459	Kannauj	Akhilesh Yadav	SP
460	Kanpur	Capt Shriprakash Jaiswal	INC
461	Khalilabad	Bhal Chand Yadav	SP
462	Kheri	Ravi Prakash Verma	SP
463	Khurja (SC)	Ashok Kumar Pradhan	BJP
464	Lalganj (SC)	Dr Bali Ram	BSP
465	Lucknow	Atal Bihari Vajpayee	BJP
466	Machhlishahr	Chandra Nath Singh	SP
467	Maharajganj	Kunwar Akhilesh Singh	SP
468	Mainpuri	Balram Singh Yadav	SP
469	Mathura	Ch. Tejvir Singh	BJP
470	Meerut	Avtar Singh Bhadana	INC
471	Mirzapur	Smt Phoolan Devi	SP
472	Misrikh (SC)	Smt Sushila Saroj	SP
473	Mohanlalganj (SC)	Smt Reena Choudhary	SP
474	Moradabad	Chandra Vijay Singh	ABLTG
475	Muzaffarnagar	Saiduzzaman	INC
476	Nainital	Narayan Datt Tiwari	INC
477	Padrauna	Ram Nagina Mishra	BJP
478	Phulpur	Dharmraj Singh Patel	SP
479	Pilibhit	Smt Maneka Gandhi	IND
480	Pratapgarh	Rajkumari Ratna Singh	INC
481	Raebareli	Capt Satish Sharma	INC
482	Rampur	Begum Noor Bano	INC
483	Robertsganj (SC)	Ram Shakal	BJP
484	Saharanpur	Mansoor Ali Khan	BSP
485	Saidpur (SC)	Saroj Tufani	SP
486	Salempur	Babban Rajbhar	BSP
487	Sambhal	Mulayam Singh Yadav	SP
488	Shahabad	Daud Ahmad	BSP
489	Shahjahanpur	Jitendra Prasad	INC
490	Sitapur	Rajesh Verma	BSP
491	Sultanpur	Jai Bhadra Singh	BSP
492	Tehri Garhwal	Maharaja Manabendra Shah	BJP
493	Unnao	Deepak Kumar	SP
494	Varanasi	Shankar Prasad Jaiswal	BJP

WEST BENGAL (42)

495	Alipurduars (ST)	Joachim Baxla	RSP
496	Arambagh	Anil Basu	CPI(M)
497	Asansol	Bikas Chowdhury	CPI(M)
498	Balurghat (SC)	Ranen Barman	RSP
499	Bankura	Basudeb Acharia	CPI(M)
500	Barasat	Dr Ranjit Kumar Panja	TC
501	Barrackpore	Tarit Baran Topdar	CPI(M)
502	Basirhat	Ajoy Chakraborty	CPI
503	Berhampore	Adhir Ranjan Chowdhury	INC
504	Birbhum (SC)	Ram Chandra Dome	CPI(M)
505	Bolpur	Somnath Chatterjee	CPI(M)
506	Burdwan	Sar Nikhilananda	CPI(M)
507	Calcutta North East	Ajit Kumar Panja	TC
508	Calcutta North West	Sudip Bandyopadhyay	TC
509	Calcutta South	Kum Mamata Banerjee	TC
510	Contai	Neetish Sengupta	TC
511	Cooch Behar (SC)	Amar Roy Prodhon	AIFB
512	Darjeeling	S.P. Lepcha	CPI(M)
513	Diamond Harbour	Samik Lahiri	CPI(M)
514	Dum Dum	Tapan Sikdar	BJP
515	Durgapur (SC)	Sunil Khan	CPI(M)
516	Hooghly	Rupchand Pal	CPI(M)
517	Howrah	Swadesh Chakraborty	CPI(M)
518	Jadavpur	Smt Krishna Bose	TC
519	Jalpaiguri	Smt Minati Sen	CPI(M)
520	Jangipur	Abul Hasnat Khan	CPI(M)
521	Jhargram (ST)	Rupchand Murmu	CPI(M)
522	Joynagar (SC)	Sanat Kumar Mondal	RSP
523	Katwa	Mahaboob Zahedi	CPI(M)
524	Krishnagar	Satyabrata Mookherjee	BJP
525	Malda	A.B.A. Ghani Khan Choudhury	INC
526	Mathurapur (SC)	Prof Radhika Ranjan Pramanik	CPI(M)
527	Midnapore	Indrajit Gupta	CPI
528	Murshidabad	Moinul Hassan	CPI(M)

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529	Nabadwip (SC)	Ananda Mohan Biswas	TC
530	Panskura	Dr Bikram Sarkar	TC
531	Purulia	Bir Singh Mahato	AIFB
532	Raiganj	Priya Ranjan Das Munshi	INC
533	Serampore	Akbor Ali Khandoker	TC
534	Tamluk	Lakshman Chandra Seth	CPI(M)
535	Uluberia	Hannan Mollah	CPI(M)
536	Vishnupur (SC)	Smt Sandhya Bauri	CPI(M)

ANDAMAN & NICOBAR ISLANDS (1)

537	Andaman & Nicobar Islands	Bishnu Pada Ray	BJP
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CHANDIGARH (1)

538	Chandigarh	Pawan Kumar Bansal	INC
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DADRA & NAGAR HAVELI (1)

539	Dadra & Nagar Haveli	Mohanbhai Sanjibhai Delkar	IND
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DAMAN AND DIU (1)

540	Daman & Diu	Dahyabhai Vallabhbhai Patel	INC
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LAKSHADWEEP (1)

541	Lakshadweep	P.M. Sayeed	INC
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MIZORAM (1)

542	Mizoram (ST)	Vanlalzawma	IND
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PONDICHERRY (1)

543	Pondicherry	M.O.H. Farook	INC
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ANGLO-INDIANS (2)

544	Denzil B. Atkinson	Nominated	BJP
545	Dr (Smt) Beatrix D'Souza	Nominated	JDS

Abbreviations used for Parties/Groups are: Bharatiya Janta Party (BJP); Indian National Congress (INC); Communist Party of India (Marxist) CPI(M); Communist

Party of India (CPI); Communist Party of India Marxist Leninist [CPI(ML)]; Samajwadi Party (SP); All India Anna Dravida Munnetra Kazhagam (AIADMK); Rashtriya Janata Dal (RJD); Telugu Desam Party (TDP); Biju Janata Dal (BJD); Shiromani Akali Dal (SAD); Trinamool Congress (TC); Janata Dal United (JDU); Janata Dal Samata (JDS) Dravida Munnetra Kazhagam (DMK); Shiv Sena (SHS); Bahujan Samaj Party (BSP); Revolutionary Socialist Party (RSP); Pattali Makkal Katchi (PMK); Marumalarchi Dravida Munnetra Kazhagam (MDMK); Tamil Manila Congress (TMC); All India Forward Block (AIFB); Muslim League (MUL); National Conference (NC); Kerala Congress (M) (KCM); Samajwadi Janata Party (Rashtriya) (SJPR); Sikkim Democratic Front (SDF); Peasants and Workers Party (PWP); Autonomous State Demand Committee (ASDC); All India Majlis-e-Ittehadul Muslimeen (AIMIM); Manipur State Congress Party (MSCP); Indian National Lok Dal (INLD); Himachal Vikas Congress (HVC); Shiromani Akali Dal Maan (SAD(M)); Janta Dal Secular (JDS); Nationalist Congress Party (NCP); Akhil Bhartiya Lok Tantrik Congress (ABLTC); Bharipa Bahujan Mahasangh (BBM); Rashtriya Lok Dal (RLD); MGR All India Anna Dravida Munnetra Kazhagam (MGRAIADMK); Independents (IND).

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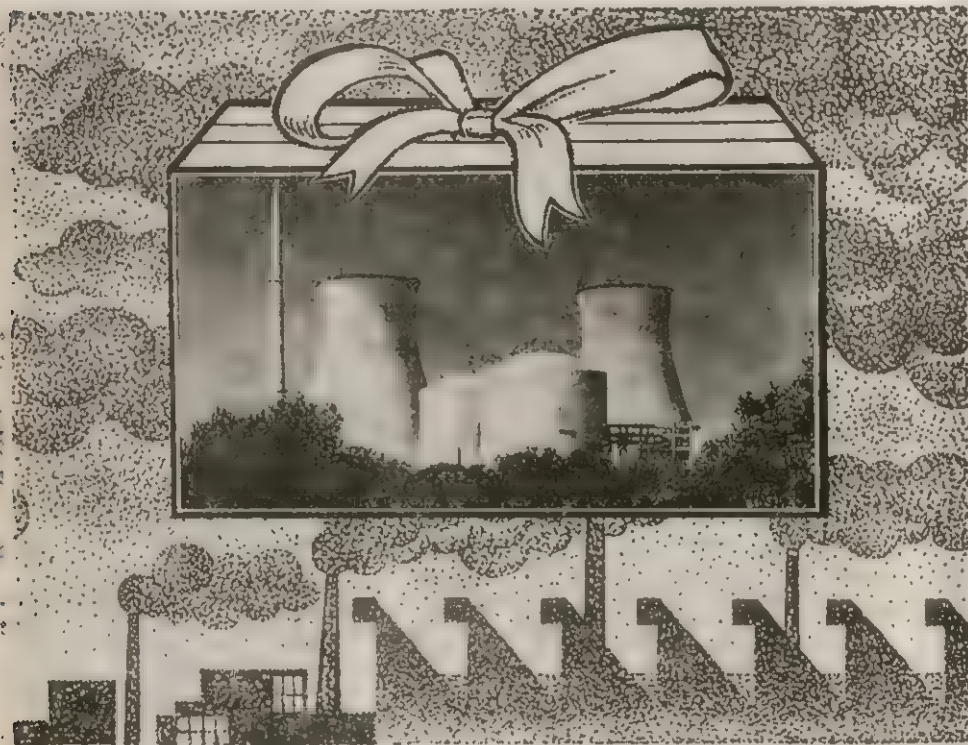
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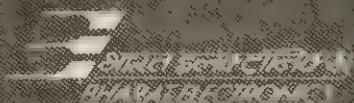


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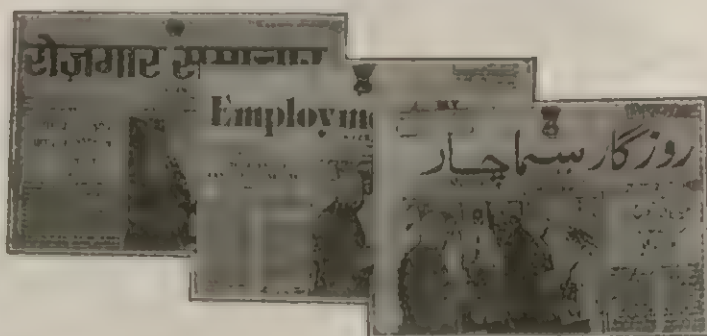
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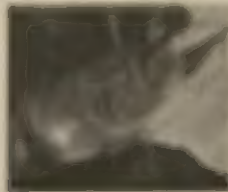
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